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CLINICAL MEDICINE AND SURGERY



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Scrambled train orders invite disaster. So in railroading as little as possible is left to memory. Train orders must be written!

Word-of-mouth prescriptions for vitamin products invite trouble, too. If confused or forgotten, the patient may get on the wrong track by selecting a deficient product. And because appearance, taste, smell or weight cannot help the patient to select wisely, low price may decide the choice instead of what matters—certainty of full vitamin content.

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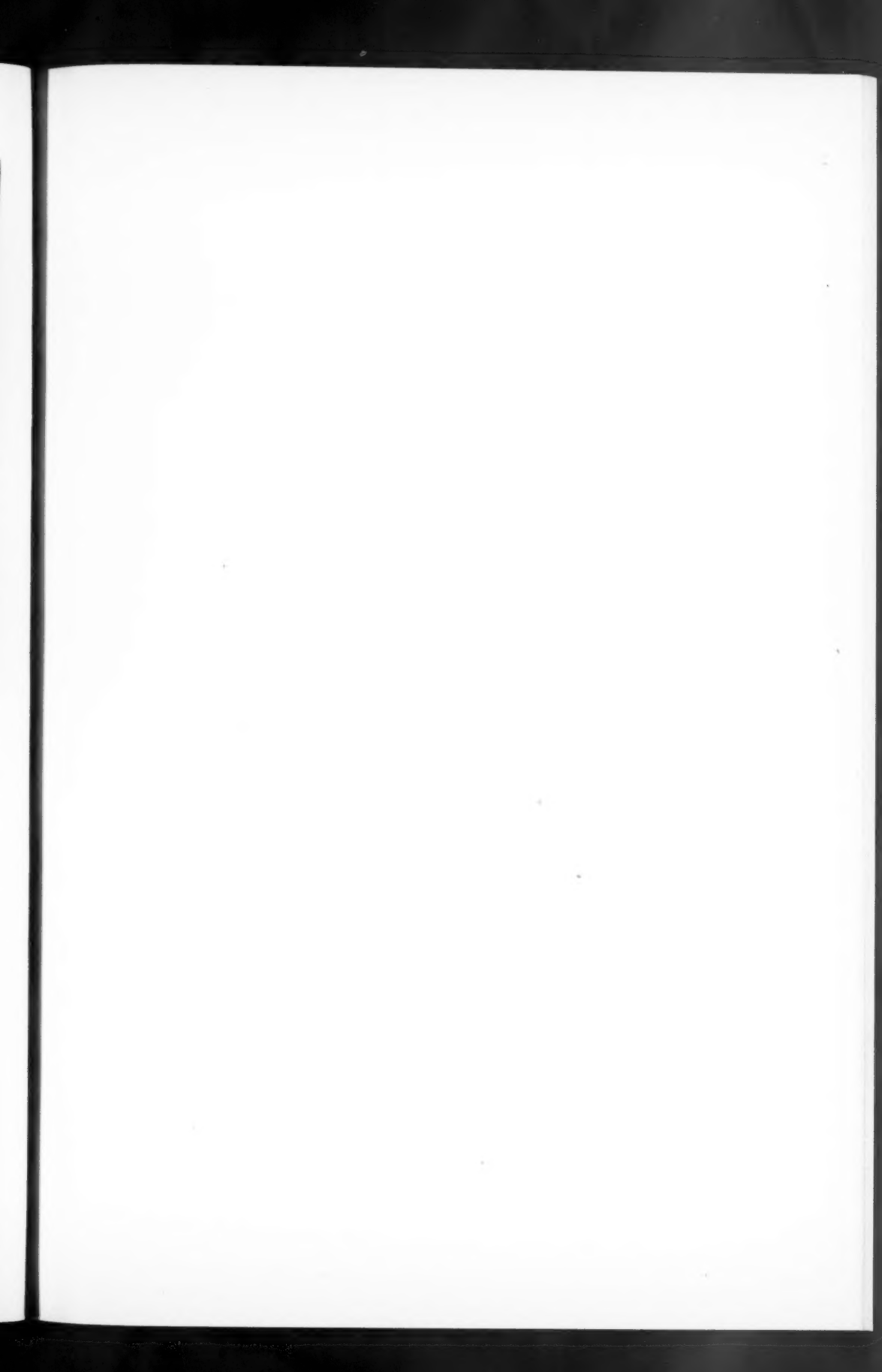
sure that their patients will receive all those vitamin units they prescribed for them.

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ABBOTT'S HALIVER OIL with Viosterol





Courtesy of The Journal of Orthotherapy.

GREGOR JOHANN MENDEL

CLINICAL MEDICINE AND SURGERY

GEORGE B. LAKE, M.D.

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VOLUME 44

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EDITORIAL

Gregor Mendel

Formulator of the Laws of Heredity

THE more one studies the history of medicine, the more one finds it mixed up, at all stages, especially the earlier ones, with religion. Most, if not all, of the earliest physicians were also priests, and all down the line the men of Medicine and the men of the Church have co-operated more or less closely and consciously, when both functions were not united in one individual.

Perhaps the most outstanding example of a cleric who, though not a physician, made incalculably important contributions to the basic science of medicine, was Father Gregor Johann Mendel.

Johann Mendel was born, in 1822, at Heinzendorf, in northeastern Moravia, which was then a province of Austria-Hungary and is now included in Czechoslovakia, into a peasant family. His mother seems to have spurred him on to seek the finer things of life, and his eagerness as a student was exceptional; but the meagerness of the family finances did not carry him far with his formal education, and his strenuous efforts to earn enough money to go on with it broke down his health. So, in 1843, he decided to become a monk and entered the Augustinian Order, where, as a novice, he was given the name of Gregor.

He was particularly fortunate in the choice of a monastery, for the abbot of Brünn, where the rest of his life was spent, was a man of sufficient discernment to recognize his talent for the natural sciences and to overlook some

of his heterodox ideas and his sometimes embarrassing frankness, and encouraged his scientific work, rather than being too assiduous in the cultivation of his soul.

Gregor was assigned to assist in the teaching of physics at the Technical High School, where his placid nature and sly wit made him so popular that the abbot twice sent him to the University of Vienna to obtain a teacher's certificate. But under his tranquil exterior Mendel passed a keen, active, and open mind and a sturdy confidence in the soundness of his ideas, so that he antagonized the examiners and never received his certificate.

At the monastery he spent much of his time in the laboratory, where he kept birds, mice, a fox, and a porcupine, and in the garden, where he kept bees and grew flowers and fruit, treating all these animals and vegetables as his children and studying them assiduously. Besides this he was an eager and omnivorous reader. Even Darwin's books (which were, of course, on the *Index Expurgatorius*) he managed to smuggle in and studied with profound interest.

In 1868, Mendel was elected abbot of Brünn, and could then give free rein to his eagerness for experimentation. The laboratory and the garden were the wonder of all beholders. Moreover, being a kindly, human, and hospitable soul, he emulated the abbots of earlier days, living richly and entertaining lavishly.

The leisurely, untroubled life of the mon-

astery, where time did not matter, was an ideal setting for the long and tedious experiments which laid the foundation of the laws of heredity. These were carried on with a certain degree of mystery, both before and after he became abbot, and his associate monks, as well as the lay people outside the walls, were decidedly suspicious of his motives and activities, but that mattered nothing to this calm but unshakable apostle of science.

This suspicion, however, led to arguments with important people and politicians, in which this defiant and liberal-minded abbot would not recede one inch from any position which he conceived to be right. People began to whisper that his mind was unhinged. Life became decidedly uncomfortable. His near relatives, especially his nephews, were his only comfort. On January 6, 1884, this great cleric-scientist passed suddenly from the scene of his historic labors, as a result of organic heart disease.

Mendel's epoch-making "Experiments on Plant Hybrids," which presented what we now know as "Mendel's laws of heredity," was published in 1865, and was his only important contribution to scientific literature. Unlike the work of Darwin, which was immediately recognized by his contemporaries, that of Mendel was not appreciated at once and was, in fact, hardly known until 1900, when it was resurrected by de Vries, Correns, and Tschermak. Now, however, Mendel's place in the hall of fame is no less high and secure than that of Darwin.

One cannot describe the details of Mendel's studies of heredity briefly, and in fact this is scarcely necessary, as at least their outlines are well known to all studious physicians. We are still a long way from the end of the possibilities opened up by his basic work, and as the years go on its importance and practical value will grow greater and greater.

But though the name of Mendel is lightly on the lips of all who pretend to even a smattering of scientific knowledge, his personality is generally unfamiliar, and it is a pleasure to throw a ray or two of light upon the kindly, thoughtful, independent, industrious, and intensely human man behind the name.

Use your will in deciding what shall occupy your thoughts.—ERNEST WOOD.

The Physical Senses

MOST people (including physicians) speak, unthoughtfully, of "the five senses" as if that were all of the ways in which a man

could become aware of the details of his environment.

There is no more reason for taking it for granted that there are only five senses than there is for assuming that there can be but three dimensions of space. As a matter of fact, there are at least three other physical senses which are generally recognized by physiologists, and three more that are still under discussion.

As distinguished from touch, the *muscle sense*, enables us to estimate the weight of various objects; while the *pain and temperature senses* give us information about the matters indicated by their names. As to the *articular sense*; the *static sense* or perception of equilibrium; and the *sense of distance*, apart from the sense of sight, there is still some difference of opinion, but at any time they may be accepted and recognized.

So we actually have at least eight physical senses of which we are now aware, if we stop to think, and possibly eleven—to say nothing of those possible others with which, as yet, we are as unfamiliar as most people are with the fourth and higher dimensions.

There is nothing more hampering to productive thought than the unquestioning acceptance of the validity of popularly-held ideas, which may have been fully adequate for our grandfathers.

Intelligence is almost useless to those who possess nothing else.—DR. ALEXIS CARREL.

Poisonous Thoughts

TO give people chemical or physical poisons deliberately, except in safe and carefully regulated doses, as a part of the treatment of disease, is a crime; and it has frequently been considered a crime to poison people even without deliberation, but merely for selfish reasons, as when toxic substances have been added to foods for their preservation. Public opinion, and even the courts, have been, at times, decidedly severe with the careless poisoners.

And yet the most pernicious and insidious class of poisoners walks abroad among us without hindrance, and even without general reprobation, and many of its members hold high positions in the social and political fields, though they rarely last so long in the field of business, where the results of their disastrous activities are more readily apparent. Some of these people are to be found in the medical profession, where their inroads are especially deadly. These are they who exude, wherever

they go (and mostly, one must hope, unconsciously or carelessly), poisons of the mind and of the spirit.

A persistently negative attitude—always looking for the worst in things, people, and events—is a poisonous attitude. The perpetual grouch, the careless liar, the tale-bearer, and the malicious gossip are not criminals, under present laws, but under the most kindly judgment they must be considered sinners—poisoners of the minds and lives of those with whom they come in contact.

The man who is intemperate in the use of alcohol or other habit-forming ("personal release") drugs is generally recognized as being a potential, and frequently an active, danger to the public. The intemperate thinker is equally or more dangerous, partly because he is less readily recognized as a menace, and partly because the poison he broadcasts is rarely recognized in its true character.

Cheerfulness is a *duty*, to oneself and to one's associates. This does not mean a "Pollyanna" attitude—the assumption that "all is well in this best of all possible worlds." The informed and courageous man is thoroughly aware that, at any particular time, many things are not well; but reenforced by the historical perspective, he has the fortitude to face the facts, do what he can to ameliorate them, and then leave the outcome upon the knees of the gods, where experience has proved it is perfectly safe to leave it, because, however dark the night, the sun of a new day has always arisen, and the unconquerable *Life Force* has always marched forward to higher levels.

No man can be cheerful who permits himself to worry about what somebody else does. We all have a full-time job *keeping ourselves* in order; and, in the final analysis, each man carries around the causes of his success or his failure under his hat.

To acquire a cheerful outlook on life one must first acquire sound, temperate habits of thinking and living, a reasonably complete, consistent and workable philosophy, and that attitude of impersonal detachment and discrimination which is the true sense of humor and the universal antidote to the poisons of the mind and the spirit.

No man who is a pessimist or a dogmatist; who is intolerant and bigoted; who fails to see all men as his brothers and, as such, worthy, in some sense, of his love, or at least of his sympathetic understanding, has any proper place in the medical profession or will achieve any conspicuous and permanent success in it.

Let every physician cleanse his soul of the

toxins of poisonous thoughts and emotions lest, in his intended ministrations, he disseminate infections which are more potent for harm than are those of the body.

If a man harbors any sort of fear, it percolates through all his thinking, damages his personality, makes him landlord to a ghost.—LLOYD C. DOUGLAS.

Cerebral Circulation and Mental Efficiency

IN a recent article in the *Medical Record*, Dr.

Donald Laird, who has been doing much interesting and important work in experimental psychology at Colgate University, reports the results of some tests which show that, when a man is in a position where his heels are higher than his head, his mental efficiency, other factors being equal, is increased.

Other tests have shown that one's mental alertness and accuracy are measurably decreased by eating a heavy meal at noon.

The fairly obvious deduction from these facts is that one's mental efficiency is in direct ratio to the supply of blood in the brain, because the erect position reduces the amount of blood in that organ by the well-known principles of hydrostatics, while a heavy meal draws the blood into the splanchnic area, to facilitate the processes of digestion.

These observations strengthen the position of the man who likes to read with his feet on the mantelpiece, and of those who prefer six small meals a day to three large ones.

They also stimulate consideration of the importance of the *quality* of the blood furnished to the physical organ of thought, so ably discussed in these pages by Dr. Ellis Powell, as well as of the *quantity*, which has been the subject of Dr. Laird's studies.

Taken together, these and other similar observations suggest the advisability of a reconsideration of our ideas relative to the etiology and treatment of those psychic or "nervous" disorders which we classify as neuroses, psychoneuroses, and even psychoses. Perhaps these conditions, which are so ill-handled by the average physician, have, at least in part, a previously unrecognized physical basis, and will prove to be more or less amenable to definitely adjustable methods of treatment, including a carefully prescribed diet and postural exercises. At least, these matters now call for much more extensive and intensive clinical study than they have been given hitherto.

Shall We Save the Constitution?

TO most thinking people in the United States, the Constitution, under whose provisions we have grown

to be the greatest nation in recorded history, is of such tremendous importance that any danger which threatens it transcends all boundaries of politics, religion, race or occupation, and so is a proper subject to bring to the attention of all physicians, in their capacity as intelligent citizens of this republic.

The present attack upon the integrity and independence of the Supreme Court (whatever its origin may have been) is so vital a matter to every citizen that it is far beyond a political or partisan issue, and cuts at the very roots of the philosophy and structure of our Government. The question is, are we ready to abandon that philosophy and that structure, or are we not? If these are to be saved, those who have faith in them and desire

their continuance must take action AT ONCE, not tomorrow, which may be too late.

Those who believe that the Supreme Court should be kept unpolished by politics of any kind, at any time, and who are willing to do a little fighting for their convictions, should write, today, to the National Committee to Uphold Constitutional Government, Times-Union Bldg., Rochester, N. Y., saying, "What can I do to help save the Supreme Court?" They should also write, today, to their Senators and Representatives in the Congress, telling them just how they feel about it. The sole purpose of these comments is to inform those who desire to take some action in this matter how they can do so most effectively.

If everyone who feels that this is a vital issue will do something about it without any delay, the liberties which many of us prize will be safe, if there are enough of us to make our Country, as we know it, worth saving.

NEXT MONTH

Dr. Wallace Marshall, of University, Ala., will discuss in detail his theory of psychoallergy (mentioned in the February issue of this Journal, on page 56), especially as it applies to general practitioners.

Dr. Joseph E. G. Waddington, of Detroit, Mich., will offer some practical suggestions as to how general clinicians (especially those who are skilled in physical therapy) can build up their practices by treating foot troubles.

Dr. Edward H. Ochsner, of Chicago, will present some simple and practical suggestions for preventing or relieving insomnia.

The third part of Dr. Dowson's article on the injection treatment of hernia will appear.

COMING SOON

"Arachnidism, Black Widow Spider," by J. C. Drake, M.D., Kerman, Calif.

"A Bed for Home Deliveries," by Edmund Lissack, B.Sc., M.D., Concordia, Mo.

Life Pours Up

Deep down under,
Where pallid rootlets stir
In the soft, brown mold,
Life sucks up the sap
Of the world and pours it
Up, up through the crust,
Through the trembling sod
To the air, to the light,
To the song of a thrush,
To exquisite magic...
Thrilling madness...
Speechless ecstasy.

G. B. L.
in *The Quickening Seed*.

LEADING ARTICLES

Intraspinal Injection of Alcohol for the Relief of Chronic Bronchial Asthma*

(A Preliminary Report)

By Elias Lincoln Stern, M.D., New York City

Surgeon, Dept. of Sympathetic Neural Surgery, Sydenham Hosp.

IN May, 1930, I reported some observations on the sympathetic nerve innervation of the lungs in status asthmaticus¹. A case of intractable asthma, definitely improved after paravertebral injections of alcohol on one side, was reported.

In December, 1931, Flothow² referred to this article, and reported a case treated by paravertebral procaine injections.

No further reports appeared until August, 1935, when Levin,³ in England, reported 16 cases of asthma treated by paravertebral alcohol injections, with 75 percent complete relief, and 25 percent partial relief.

The excellent results following the operative removal of the stellate ganglion in several hundred cases of asthma have recently been reported by H. Godard, in France⁴.

One cannot but conclude from these reports, and from those of Kümmel, 1923⁵; Braeucker, 1925-6⁶; Danielopolu, 1925⁷; Leriche and Fontaine, 1928⁸; Phillips and Scott, 1929⁹; and from others, that interruption of the sympathetic fibers to the lungs would be desirable in cases of chronic asthma.

In such cases, no matter what the initial exciting cause may be, there is, I believe, a constantly active vicious-cycle-reflex in both sympathetic and vagus nerves of the lungs. Mucous plugs and hypertrophic changes in the smaller bronchial tubes^{10, 11} eventually become the principal excitatory causes. This theoretical consideration is diagrammatically shown in Fig. 1.

I wish to report two cases of severe chronic asthma, favorably treated by a new procedure of injecting absolute alcohol into the spinal subarachnoid space. *The method interrupts the vicious-cycle-sympathetic reflex arcs whose centers lie within the upper portion of the thoracic spinal cord.*

Ordinary spinal anesthesia is thought to produce motor paralysis by the action of the

anesthetic drug on the dorsal nerve roots only¹². In small doses, alcohol intraspinally has an affinity for the posterior nerve roots, and has been successfully used in a variety of clinical conditions¹³ to ²¹.^{*} Blocking the afferent side of a reflex arc "paralyzes" the efferent side. Blocking the afferent side of a sympathetic reflex arc "paralyzes" the efferent motor or vegetative function. While a series of injections to block the dorsal nerve roots of the eighth cervical and all the thoracic nerves seemed at first to be necessary, the fine results which unexpectedly followed only a single injection in each case being reported, may prove that one injection alone suffices. This unusual method of treatment and a preliminary report of the results obtained is therefore justifiable.

Case Reports

Case 1.—L. W., male, 35 years old, complained of asthma of four years' duration. He was referred to me on October 25, 1935. The patient gave a history of having become very dyspneic suddenly, after walking up a flight of stairs in 1931. He went to an eye, ear, nose, and throat hospital, and had some nasal polyps removed. One month later, he developed repeated attacks of severe dyspnea and wheezing in the chest. Three months later, his tonsils and adenoids were removed. The attacks of asthma became progressively worse, and were accompanied by the expectoration of thick mucus, which he coughed up with difficulty. He became very irritable, perspired profusely on the least exertion, and had lost 35 pounds of weight in the past two years, in spite of the fact that his appetite was good and that he ate well. He gave no history of any cardio-renal, gastro-intestinal, or genitourinary symptoms. There was no history of allergy in his family.

The attacks of asthma at first were usually relieved by injections of adrenalin (epinephrin), but recently this drug gave little relief, in spite of increased doses.

During 1934, the patient was examined and treated at another hospital. The mucous membrane on the right side of his nose was found

*From the Department of Anatomy, Columbia University, and the Dept. of Sympathetic Neural Surgery, Sydenham Hospital, New York City. Presented at the Clinico-pathologic Conference, Manhattan Gen. Hosp., Dec. 22, 1936.

*Sterilized absolute alcohol in convenient 2 cc. ampules was kindly furnished by Endo Products, Inc., New York City.

to be atrophic, the left inferior turbinate swollen, and pharyngitis and post-nasal drip were found. His sinuses transilluminated clearly. A diagnosis of atrophic rhinitis, bronchial asthma, chronic bronchitis, and emphysema was made. His sputum was negative

kind enough to check the observations during his treatment.

On October 27, 1935, at 9:45 A.M., the patient was taken to the operating room where, under local anesthesia with 2-percent Novocain (procaine) solution without adrenalin, an in-

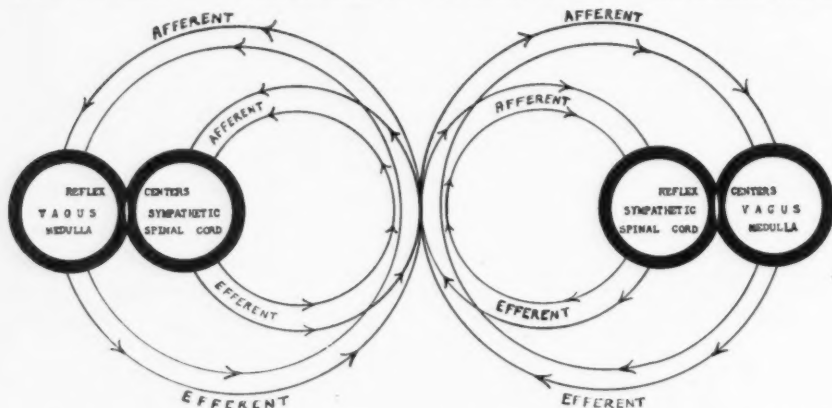


Fig. 1.—Schematic diagram of the vagus and sympathetic nerves of the lungs on each side of the body, showing afferent and efferent fibers in each system, connected to corresponding reflex centers in the medulla and upper thoracic spinal cord. Irritation of these afferent fibers may cause reflex bronchial spasm and mucus formation, which, in turn, act to enhance the irritation and maintain the condition in status asthmaticus. The central part of the diagram represents the lungs. The theory presumes that there are, in status asthmaticus, constantly active irritative lesions in the lungs, giving rise to a constant stream of afferent impulses. These impulses set up reflexes which cause efferent impulses to travel from the reflex centers, thus causing the continuous formation of mucus, vasoconstriction, and constant bronchial spasm, which we find in that condition. The method I describe breaks the sympathetic reflex arcs.

for tubercle bacilli on several occasions, but contained streptococci, micrococci catarrhalis, and Friedlander bacilli. His blood Wassermann reaction was negative. Skin tests were all negative, except for a reaction to a stock vaccine. His asthma was thought to be due to infectious elements. His asthmatic attacks required morphine and adrenalin.

At the time he was referred to me, he was in a condition of status asthmaticus of intense degree. His condition was so bad that he said he almost had to crawl on his hands and knees to get up the few steps into Sydenham Hospital.

Physical examination, on admission to the Hospital, revealed a well-developed and fairly well-nourished man, suffering from typical bronchial asthma. There was slight prominence of his eyeballs, and other signs of an early hyperthyroid condition. His pupils were equal, regular, and reacted promptly to light and accommodation. His nose, mouth, throat, and neck were normal. His chest was well developed, with slight antero-posterior enlargement. There was no impairment of expansion. The percussion note was hyperresonant throughout. Numerous wheezes and sibilant and sonorous râles were heard throughout his lungs on both sides. There was no cardiac enlargement. His pulse rate was 84; blood pressure, 130/84. His abdomen and extremities were negative, and his reflexes normal.

Dr. A. H. Finemen concurred in the diagnosis of typical bronchial asthma, and was

traspinal, subarachnoid injection of absolute alcohol was given. The patient was put in the lateral-recumbent position, with the upper thoracic vertebra arched and elevated above the rest of the spine. The spinal puncture needle was first put between the 3rd and 4th thoracic spines in the midline, but it was impossible to get beyond the dorsal plates. The needle was then reinserted between the 4th and 5th spines, and clear spinal fluid was obtained without difficulty, although the spinal fluid pressure was zero. After 0.5 cc. of the fluid was aspirated, 16 minims of absolute alcohol were injected slowly into the subarachnoid space. The injection time was one minute, and the patient was kept in position fifteen minutes. He was then turned flat on his back, in which position he was kept for three hours.

The patient felt better immediately after the injection was completed, though the chest signs were unchanged. When seen 1½ hours later, he was breathing easier. The entire procedure was recorded in motion pictures, since this was the first time this type of treatment has been given for asthma.

When seen at 8:30 P.M. that evening, he said he had had a very comfortable day. He had expectorated considerable mucus and had a slight headache during the afternoon, but none that evening. He noticed the numbness over the upper part of his right chest, shown in the accompanying photographs (Fig. 2).

The patient was extremely happy, and was actually in tears for joy. He even went so

far as to embrace and kiss his doctor! Upon auscultation, both sides of his chest were clear, except for a small area over the middle of the right side posteriorly, where he still had some râles and musical wheezes, but these were not marked. He had a definite Horner's syndrome on the right side, showing conclusively that sympathetic fibers had been affected. Scratching the skin on the right side of his neck did not cause dilatation of the right pupil.

When seen at 9:15 the following morning, the patient said he had had a comfortable night, except for a coughing spell in which he expectorated considerable mucus. He complained of a headache, which was actually a pain over the right side of his face, around the eye and right side of the nose. This painful area did not extend behind the ear nor over the occipital region. The patient stated he had more saliva in his mouth than formerly, and believed that it came chiefly from the right side.

Sensory examination revealed a hypesthetic area on the right side of his chest from the third to about the fifth rib in front, or about one inch below the right nipple, which appeared contracted and blanched. Over this hypesthetic area, a pin prick was felt as dull: heat was recognized, but in isolated areas was called cold; while cold was always correctly interpreted. However, both heat and cold were less acutely recognized, over this area, than above or below, or on the corresponding left side of the chest. Pinching of the skin was recognized over this area of hypesthesia.

His abdominal and radial reflexes were not obtainable, but his cremasterics, biceps, knee and ankle jerks were normal. He had no Babinski or confirmative reflexes, but still showed Horner's syndrome—the right pupil smaller than the left, and not dilating upon stroking the right side of the neck. The left pupil was larger—in mid-dilatation—and responded on stroking the left side of the neck. The right eyeball seemed to be receding into the socket, for the right palpebral fissure was now narrower than the left. The chest still showed a few mucous râles, both anterior and posterior, but his condition seemed improved.

When seen by Dr. Fineman that day, he noted less coughing and wheezing, that he was expectorating freely, and that his chest still had scattered sibilant and sonorous râles, but that it was not so "tight." On October 29, Dr. Fineman noted that his general appearance was good, that he was coughing and expectorating freely, that he was not wheezing, and that his chest was much clearer. The pressure test revealed sibilant and sonorous râles throughout, but fewer than upon examination before the alcohol injection.

On October 31, the patient's chest was remarkably clear; there was only a small area over the left lobe, posteriorly, and left upper lobe, anteriorly, where a few mucous râles were still heard. The rest of the chest was absolutely clear, with normal breath sounds. In addition to the numb area over the right side of his chest, the patient said there was also a small area of numbness over the left hip.

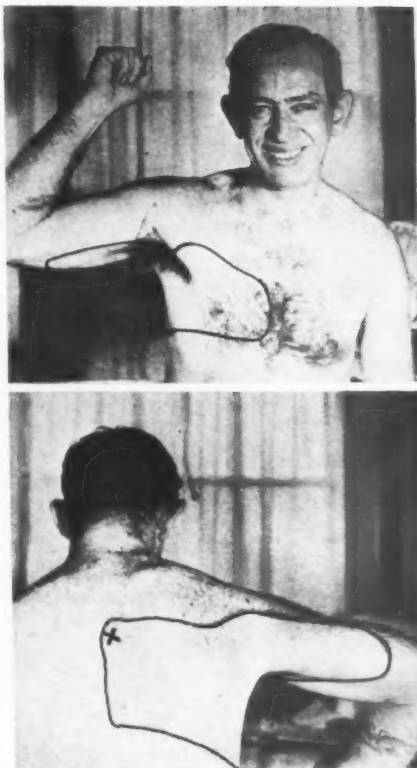


Fig. 2.—Patient described in Case 1, one week after an intraspinal (subarachnoid) injection of absolute alcohol. Note the expression of ease and satisfaction; also the site of injection (marked X) and the outlined area of hypesthesia, anterior and posterior.

On November 1, the patient showed continued improvement; he was not wheezing, and his chest was much clearer. The pressure test was still positive. On November 2, Dr. Fineman noted that there was no wheezing, that the patient had had no asthmatic attacks, and that he had only a slight cough. His chest was practically clear. The pressure test was still positive. On November 3rd, one week after the injection, his chest was absolutely clear, and he had practically no sputum. He had expectorated about 25 ounces of mucous in the week following his injection. This sputum was again examined twice for tubercle bacilli and found to be negative.

Stereoscopic x-ray examination of his chest on October 26, 1935, revealed the following: The pulmonary fields were unequal in size, but equal in illumination. The right was larger than the left. The pulmonary markings were markedly increased in number and intensity throughout both sides, more marked on the right side, and most marked in the right upper lobe. The markings were not confluent. There were numerous calcified areas in the right lower lobe. The trachea was not

displaced. The hilus shadows were increased in size and density, with some calcified areas present. The heart was small and regular in outline. The diaphragms were normal in relation to each other and regular in outline. The costo-phrenic spaces were clear. The x-rays revealed nothing but the calcified areas, which suggested an old, healed inflammatory change. X-Ray examination on November 2, 1935, revealed no changes from the first examination.

Electrocardiographic examination, on October 25, revealed a low-voltage QRS complex in all leads; otherwise the tracings were within normal limits.

The patient left the hospital on November 3, and continued to be free of asthma until November 7, when he again had a severe attack of asthma which followed some "aggravation." On November 9, he complained of neuralgic pains around the right side of his face and eye, and of difficulty in breathing. The right side of the face was dry; the left was red and perspiring. Examination of his chest revealed much spasm, but little mucus. After several doses of codeine and acetylsalicylic acid, these pains subsided, breathing became easier, and the patient had only the pains on the right side of his face on coughing. On November 12, his lungs were clear again; the numbness persisting.

The patient continued to feel well until November 25, when he again had difficulty on exposing himself to the wind. This attack responded promptly to adrenalin (epinephrin), and he remained well for another week. He then had a moderately severe attack lasting three days, followed by a free interval of ten days. Following a mild attack lasting two days, in which there was no expectoration, the patient was practically free of asthma for seven weeks. He then went to Florida for the month of February, 1935, after which he returned to New York. He has been free of asthma to the present time. He has been feeling entirely well except for a post-nasal drip and has even returned to work as a dress cutter, this being the first work he has done in more than four years.

Case 2.—M. G., female, age 22 years, complained of asthma of five years' duration, and was referred to me on November 19, 1935. Her first attack of asthma developed after a severe eczema broke out over her chest, neck, and face. She then developed repeated attacks of dyspnea, wheezing, choking sensation, and orthopnea. She coughed a great deal and expectorated much mucus. The attacks were worse in rainy weather. Her appetite was poor and she had lost eighteen pounds in weight in three months. She was constantly nauseated, occasionally vomited, and was very nervous. There was no family history of allergy.

The patient had been tested and treated by many doctors, and was found sensitive to rye and wheat. She obtained some relief from adrenalin, but recently the attacks were becoming quite severe and frequent, and she admitted contemplating suicide.

Physical examination revealed a typical case of bronchial asthma. Her chest was slightly barrel-shaped and hyper-resonant,

and there were numerous wheezes and moist râles throughout the chest. Her pulse was 76; blood pressure, 118/72. Her condition was desperate, and she was willing to undergo any procedure which might give her relief, regardless of the risks of paralysis or even death.

On November 19, 1935, at 3:15 p.m., the patient was taken to the operating room and placed in position on her left side, with the thoracic spine arched and elevated. A spinal puncture needle was inserted between the 4th and 5th thoracic spines in the midline, under 2-percent Novocain without adrenalin. Clear fluid, under normal pressure, was obtained without difficulty, and 2 cc. were removed. By means of a tuberculin syringe, 16 minims of absolute alcohol were then injected slowly into the subarachnoid space, taking one minute to inject this amount. The entire procedure was without pain. The patient was kept in position for twenty minutes, and then turned on her back, in which position she was kept for three hours.

Her breathing became easier immediately. That evening she developed a typical picture of shock, probably due to the complete withdrawal of adrenalin. She responded promptly to stimulation.

Sensory examination revealed hypesthesia of the right 1st to 6th thoracic segments, and the left 4th to 6th thoracic segments. In addition, a profound anesthesia of all types of sensation in the lower limbs made it impossible for her to move them, resembling the condition which follows ordinary spinal anesthesia such as is used every day for operations. A sensory loss of rectum and bladder control also followed and frightened the patient and her family greatly.

Three days after the injection, her chest was practically clear; and the following day it was absolutely clear. There were no râles, dyspnea, nor wheezing. She was free of asthma for nine days, during which time she ate rye and wheat bread against advice, since she had been proved sensitive to these foods. She then began to have some mild attacks of asthma, which responded to adrenalin sprays.

A neurologic consultant, probably unfamiliar with this unusual picture, was called upon four days after the injection. He believed the patient had suffered a severe cord lesion involving the pyramidal tracts, posterior columns, and spino-thalamics on the right side. He felt that the alcohol must have been injected into the cord, and gave a poor prognosis. However, the entire condition can be explained as being due to a profound effect on the posterior roots and dorsal columns only, and the apparent motor "paralysis" as due to a loss of muscle, tendon, and joint sensation. The finding of a positive Babinski reaction on both sides seems to point to the fact that other conditions besides damage to the pyramidal tracts may cause this reaction. Undoubtedly, the sensory root as well as the upper motor neurone, has an important influence on the anterior horn cell. The Babinski reflex therefore may point to a lesion of any pathway which influences the anterior motor cell.

Subsequent events proved that there was no permanent damage to the cord, for sensation returned rapidly, and she regained power in her lower limbs in a relatively short time (within two weeks). At the time she left the hospital, bladder and rectal control had returned, sensation was almost normal, and she was able to take some steps with assistance.

The patient went to another hospital, where she stayed three weeks and was treated by the neurologist. During that time she had no difficulty with her breathing, and her neurologic condition continued to improve. The last report concerning her asthma was that she was entirely well.*

Summary

1.—The sympathetic nerves to the lungs, in cases of chronic asthma, may have either a normal or perverted function which maintains a status of bronchial spasm.

2.—Prior to this, blocking the sympathetic reflex arcs has been accomplished by stellate ganglionectomy, as well as by paravertebral alcohol injections in this region, with most encouraging results in cases of intractable asthma.

3.—A new, simpler, and more efficient method of blocking these sympathetic reflex arcs by means of intraspinal (subarachnoid) injections of absolute alcohol is submitted. The detailed histories of two severe cases of intractable asthma, apparently cured by this method, are given. In those cases which do not respond to any other type of treatment, this method of intraspinal alcohol injections is justifiable.

*Temporary loss of motor function and loss of bladder and rectal control, lasting from a few hours to several days, have been observed after subarachnoid alcohol injections for conditions other than asthma. The severe shock reaction on the evening of the injection, and the profound changes in sensation, suggest the possibility of some form of allergic phenomenon in the spinal canal. Precipitation and chemical change of the small amount of protein normally found in the spinal fluid may be the exciting cause for this new type of allergic reaction. It is also conceivable that certain forms of chronic skin conditions, such as eczema and psoriasis, as well as other chronic conditions of unknown etiology, may well be caused by allergic phenomena within the spinal canal. The whole question of spinal cord and meningeal allergy, including the occurrence of the Schwartzman phenomenon within the spinal canal, is worthy of further investigation.

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DRIVERS AND DRIFTERS

There is no doubt that the most radical division of humanity it is possible to make is that which splits it into two classes: those who make great demands on themselves, piling up difficulties and duties; and those who demand nothing special of themselves, but for whom to live is to be every moment what they already are, without imposing on themselves any effort towards perfection; mere buoys that float on the waves.—ORTEGA y GASSET, "Revolt of the Masses."

PERSONAL INVENTORIES

It's good to have money and the things that money can buy, but it's good, too, to check up once in a while, and make sure we haven't lost the things that money cannot buy.—Postage and the Mailbag, July, 1936.

Analogies between Goiter and Other Diseases

By Emilian O. Houda, M.D., Tacoma, Wash.

GOITER is not a freak condition, basically different from tumors in general; neither is it remarkably different from diseases in general. When logically correlated with so much that is known about the condition, new facts command attention. Even though contrary to generally accepted ideas, facts cannot be set aside.

Earlier conceptions, as advanced by an old school of thought which had never arrived at conclusions as positive as those to be herein expressed, must be discarded or greatly modified before any further advance is possible on this subject. The old school still continues to teach that a lack of iodine is, in some not as yet determined manner, directly responsible for the development of the condition. Ten years ago, as I can attest after contacts with many individuals and no few clinical groups chiefly interested in goiter surgery, here and abroad, it was extremely difficult even to insinuate that iodine had nothing whatsoever to do with the underlying cause. No one cared to listen to such an idea. At the present time, in spite of an enormous amount of propaganda released by followers of the old teachings, it is not very easy to find the rare individuals who care to subscribe to them positively and without reservations.

"Deficiency Diseases"

Respecting fully the importance and relationships of many elements to normal growth and health, it may now be stated positively that not one of the many inorganic elements necessary to the growth and maintenance of body structures has yet been established as holding the key to the exposition of the underlying causes of a single disease. Much, of course, is known about the normal and abnormal changes which constantly take place in the chemistry of living flesh in health and disease, yet there is a great deal that is unknown and will remain imponderable for a long time to come. *Not all is known about anything.*

Some pertinent questions may be raised here in regard to so-called "deficiency diseases." Just what is meant is quite vague to many, particularly when the term is used in attempts to postulate matters that have never yet been proved. Are these deficiencies to be viewed as an actual lack of intake or availability? Or are they due primarily to other and more basic factors which interfere with the utilization of elements, particularly when those elements can be shown as always available? If the first suggestion could possibly be correct, then the conditions which follow must be viewed as forms of elementary starvation; and starvation could mean only

atrophy or wasting away. That the second viewpoint is more nearly correct seems logical, especially when it is definitely provable.

Certain phases of thyroid disease are characterized by symptoms due to a profound lack of thyroid secretion in the blood stream, and many, if not all, other diseases (glandular or otherwise) are characterized chiefly by a lack of organic products peculiar to the parts affected. Cretins, who are dwarfed physically, as well as mentally, are so because their bodies have always lacked thyroid iodine, and it is utterly impossible to correct that lack through the administration of ordinary iodine because their thyroids were virtually destroyed early in life—in most instances before birth. For this reason alone, there never was a chance for their glands to make thyroxin from the always-available iodine daily absorbed from foods.

The competency of any manufacturing plant is wholly determined by the ability of its machinery to create, not by the amount of raw material brought to it. In the same way, the competency of body organs is likewise determined by the ability of their cellular structures to create their special products, not by the amount of elements ingested. Even if the supply of raw material is suddenly and completely cut off, the ability to create still remains as before, and operations are resumed as soon as raw material arrives.

But the thyroid is never short of raw material. Thyroids slowly make very small amounts of a product that is powerful, but surely under the control of not-fully-understood governors, as long as they remain capable of doing so. They never quit their job! Their work of creating depending upon the needs of the body, which is a cooperative and most highly organized assembly of many billions of individual cells, each working for the good of the other; they grudgingly cease working only when they become incompetent because of disease or the shutting off of their blood supply.

The gross intakes and eliminations of iodine, calculated for any considerable period of time from available data, are very much beyond the amounts which thyroids require in that period for the construction of thyroxin for body needs in health and disease. The kidney excretions are never free of the natural surfeit, and the amounts thus excreted are above what the thyroids utilize. There are no positive proofs that goitrous thyroids require more than normal ones. There are proofs, however, that goitrous glands use more of the natural excess than do normal ones. Compared with normal glands, all goitrous thyroids have a relative lack, yet the total iodine content in them is much beyond that in

normally small thyroids. The actual drop in the percentage of iodine content, always below normal fluctuations, is more than compensated by the degree to which the glands have enlarged. So, radically opposed to the beliefs deeply inculcated by the old school, the general run of goiters are richer in iodine than normal thyroids. The distinction between availability and utilization should be fully apparent.

Nevertheless, over a period of many years a flood of deficiency theories, of one sort or another, has packed medical libraries with thousands of volumes and, with the exception of one disease, none contains the information necessary to a comprehensive understanding of its subject. The exception deals with Addison's disease which, in the large majority of instances, is now recognized as being due to a gross destruction of the suprarenal glands by tubercle bacilli, brought to them by way of the blood stream from some more primary focus of tuberculosis.

As a specific disease of the strictly internal glands of the body, Addison's disease is the first to be fully settled as to its primary causes. From a viewpoint limited strictly to primary causes, this disease should rightly be considered as one of the many chapters of the long story of tuberculosis, whose continuity is maintained throughout by tubercle bacilli. But let it be considered here as a glandular disease. As a result of gross destruction and sequelant incompetency of these glands, the body as a whole is profoundly affected because of a great or complete lack of their products. No single inorganic element has as yet been incriminated as lacking in this disease.

The science of chemistry, all-inclusive as it seems to be, is not immediately concerned with any but chemical problems. Contrary to generally accepted but unprovable theories about thyroid enlargements, goiters are due primarily to factors necessarily at work within them and to the varying manners in which thyroid flesh reacts to such factors over a period of years. Those factors are micro-organic; they are alive; uncommon methods have been required for their detection and cultivation; and they continue their primary rôle by their constant presence throughout the active course of the disease. They are quite readily demonstrable, when properly looked for, in the large majority of goitrous tissue specimens as obtained in the surgery under aseptic conditions, and they fulfill more than the usual rules by which microbes are established as the basic factors of disease in general.

Analogous to all other diseases whose primary causes are definitely established and recognized, goiter and its many symptoms, its great variety of structural changes, and its chemical perversions, involving more ele-

ments than iodine alone, must be regarded as a highly complex result of thyroid disease in every instance.

Continuing the analogy, the entire story of this and every other disease is so dominated, throughout every gross and minute detail, by primary causes that not a single phrase of the story of any disease can be uttered without contemplating the basic rôle of the underlying factors. Without them all diseases would be non-existent. Even if unknown, the primary causes still dominate, the under-terminated causes of hydrophobia, cancer, and diabetes being classic instances. Scientific medicine of the future, in direct contrast to much current hodgepodge of empiric treatments based upon insufficient information and illogically correlated data, will be founded upon this principle.

Inorganic iodine plays no important part in body chemistry until converted into the organic form which the thyroid constructs from it. However, it is generally recognized as a valuable agent in the amelioration of the symptoms of many diseases, goiter included. It cures no well-established goiters. It should do that very thing *for all of them*, if a lack of this element actually linked up the whole story of goiters. But it does not.

Specific Bacteria and Vaccine

The conclusion now reached is clear-cut. Goiters are physical evidence that originally normal thyroids have been, and probably still are, reacting against the primary causes which entered them by way of the blood or lymph stream. This is the only way they can possibly enter, because the thyroid is but one of many internal glands, none of which can be invaded in any other manner. Microbes are the positive factors which have defied elucidation heretofore, chiefly because so few have cared to look for and cultivate them by the only methods possible, preferring to believe that the old school of thought could still settle the question, if given more time.

Microbes not only make possible the answer to the long mooted question of the cause of goiter, but fortunately, as is true in the case of many diseases now treated successfully with products made from their primary causes (vaccines), they also contain substances that are inimical to themselves and to the continued existence of the disease they cause. Properly prepared anti-goiter vaccine is, therefore, as effective as any of the similar products which are better known.

These conclusions are further verified by the results obtained through the use of anti-goiter vaccine, made of microbes cultivated from goiters exclusively, when injected, in readily controlled doses, as a specific im-

munizing agent. The problem is thus attacked at its very root. The conversion and successful application of the forces which underlie all thyroid enlargements once more reaffirm the fact that Nature ultimately supplies the agents necessary to the cure of diseases.

In view of these facts, a radical change in both medical and lay thought is called for. Anti-goiter vaccine has sufficiently proved its value in the hands of many physicians scattered about the United States, some of whom viewed it very skeptically at first, employing it cautiously on the assurances that it could not be harmful. By its use, adolescent goiters recede in size, with early improvement of many of the symptoms peculiar to this period of the condition; the active symptoms of exophthalmic goiter, as well as those of the more common nodular enlargements, are quite readily amenable to marked improvement in a reasonably short time; and when it is used postoperatively, in the well-advanced types that neither vaccine or iodine can cure, especially when the vaccine is prepared of the cultures obtained from the actual tissues removed (is auto-genous), these surgical types have recovered normal health more rapidly than is possible under any other form of treatment, and with reasonable assurance against the all-too-common recurrences. The period of ten years that has elapsed since this treatment was first instituted is too short a time to make definite conclusions on this last score. However, no treatment heretofore used could give such a high degree of assurance against recurrence, chiefly because a specific treatment against primary causes did not exist.

There is no more conclusive proof of the specific value of anti-goiter vaccine than that shown in the results obtained in those cases in which it was applied, after one or more thyroid operations, combined with iodine, x-ray and radium treatments, had failed to effect a satisfactory cure. Aside from my own experiences in such cases, other physicians, through correspondence, are now reporting such results with vaccine in the treatment of cases that had failed to recover by other means.

There is another class of patients with badly damaged hearts, due to long neglected thyroid disease, in which no other treatment offers the relief from the symptoms of thyrotoxicosis that anti-goiter vaccine does. These, otherwise, are usually left the one chance that iodine may do some temporary good; but usually it fails and, when continued over considerable periods of time, drugging with iodine is quite apt to prove harmful, even to the uncomplicated cases of toxic goiter. As yet, no such charge can be

brought against the vaccine, which does not require protracted use.

Giving credit where it is due, a considerable number of those from whom the general run of not-particularly-active goiters have been removed have recovered fully following mere removal; but how about the complete failures after removal of very small but extremely toxic goiters? In spite of one or even repeated operations, and protracted iodine treatment, medical literature reports cases that have continued with increasing toxicity, to eventually die in severe crises, coma, or delirium. The answer must be found in some unseen forces at work. In the first instance, forces which are probably of an immunologic nature have developed spontaneously over a long period of chronic thyroid disease; in the second instance, the body fails to resist a poisoning that, from its surmised nature, must be overwhelming. In any event, these unseen forces, in all instances, are matters quite apart from the technics of surgical skill. Vaccine is now throwing light upon them.

For the assured cure of active thyroid disease, there is more to be done than the mere removal of a "lump" from the neck. How true that is of other surgical diseases, is a matter of simple deduction. The remarkable changes for good that slowly but surely occur in practically all types of goiter treated by active immunization, makes it an imperative duty to carry radically different ideas to a successful issue.

The key to the solution of any problem, whether simple or complex, lies essentially within itself. If the answer to the goiter question could not be found in goiters, it certainly could never be found more directly elsewhere. But, incredible as it may seem, it is very doubtful if the fingers of one hand are not more than sufficient to count the few who might be actively engaged at this time, over the entire medical world, in seeking microbes in goitrous tissues. The almost universal, though unwittingly committed, sin of omission regarding the removed tissues daily sent to hospital laboratories for the purpose of pathologic diagnoses alone, is the failure to look beyond cellular changes in the diseased structures for the primary causes necessarily present in all such material.

The true nature of goiter may yet seem stranger than a fictional story based upon an impossible hypothesis that was first advanced 86 years ago, or a quarter of a century before one disease was definitely established as of microbic origin, and at a time when analogies between diseases could not be clearly defined, because the true nature of none was known.

Fidelity Bldg.

The Use of Colloidal Adsorbents with Vitamin B

(A Preliminary Study)

By David Stein, M.D., and Edward H. Kotin, M.D., Philadelphia, Pa.

AN adsorbent is a substance that can attach other particles to its surface by molecular cohesion without any chemical action. Certain insoluble powders in fine division present a very large surface for adsorption. Those employed in medicine are: Animal charcoal (*carbo animalis*); purified animal charcoal (*carbo animalis purificatus*); wood charcoal (*carbo ligni*); purified infusorial earth (*terra silicea purificata*); magnesium silicate (*talcum purificatum*); fullers' earth (aluminum and magnesium silicates); and kaolin (aluminum silicate).

These powders tend to adsorb most readily the larger molecular aggregations, such as those of organic coloring material, bacterial toxins, alkaloids, and other plant principles. They may serve as mechanical agents to interfere with microbial activity and to carry away bacteria (Bastedo).

In this communication we have concentrated on kaolin; not, however, the ordinary kaolinum of the "National Formulary," but colloidal kaolin. Ordinary acid-washed kaolin usually occurs as a fairly fine powder, which is completely insoluble in water. Although it does possess adsorptive properties, it does not approach the efficiency of a kaolin which has been rendered colloidal by a process known as peptizing. In this colloidal kaolin, the particles are so fine that, when stirred into water, they remain suspended and do not drop to the bottom; so fine, indeed, are the particles that they are comparable in size to bacteria. They take a negative electrical charge in water and will cause a mutual precipitation with a positively charged colloidal suspension.

Adsorbent action depends on surface area, and this surface area is dependent on particle size. To show the extreme subdivision of colloidal kaolin, in an average of 52 counts, 1 gram of colloidal kaolin was found to contain 0.9×10^{14} (90,000,000,000,000) particles. When shaken with water, the kaolin remains in suspension for more than a week. The addition of 0.3 percent by volume of strong hydrochloric acid to a 1-percent suspension causes immediate flocculation; and the addition of 1.3 percent by weight of sodium chloride (dissolved) brings about complete flocculation within ten minutes. The colloidal suspension is not flocculated by the addition of moderate amounts of sodium hydroxide.

Braafeldt studied the intestinal flora in normal and pathologic conditions, and concluded that kaolin carried down large num-

bers of bacteria from fluid media, if kept in motion for from two to three hours; that it neutralizes and prevents the toxic effects of *Vibrio cholerae asiaticae*, *Bacillus shigae*, *B. enteritidis sporogenes*, *B. botulinus*, *B. typhosus*, *B. paratyphosus*, and perhaps the putrefactive and proteolytic bacteria; that, when administered orally in daily doses of from 1 to 2 ounces, over a period of from ten to thirty days, it changes the intestinal flora from a proteolytic to an aciduric type; and that it is not followed by digestive disturbances.

Mills, in the *Journ. of Lab. and Clin. Med.*, for May, 1935, declared: "A close association seems to exist between oral and colonic hygiene. Putrefactive activity in the colon seems to result in halitosis, excessive tartar deposit, and lowered vitality of the gingival tissues. The suggestion is made that this effect may even be extended to the teeth, as the basis of much caries."

"Intestinal putrefaction is the basis of many skin infections, such as acne, and the elimination of such putrefaction often brings about rapid and complete disappearance of the most severe pustular acne. It is suggested that these oral and skin troubles result from excretion, from the saliva and sweat glands, of the putrefactive material absorbed into the blood from the colon."

"The most rapid and certain treatment for intestinal putrefaction is kaolin, administered in a syrupy suspension. This preparation has the added value of low cost, which is important in this type of case that usually requires continuous treatment for years."

Menes recommends kaolin in the treatment of gastric ulcer. Kanter recommends bulky, inert chemicals for unstable, irritable colons, diverticulitis and other functional conditions. Barga recommends kaolin as being temporarily helpful in the treatment of uncomplicated chronic ulcerative colitis. Aaron noted that kaolin may abort many cases of acute enteritis, without any other treatment.

The action of colloidal kaolin is thus well established, but it seemed to us that the use of this agent alone did not do all that could be accomplished by a correctly designed preparation which, besides relieving symptoms, would at the same time correct some of the underlying causes of gastro-intestinal derangement. Often such derangements are associated with vitamin B deficiency and an unfavorable intestinal flora. It was thought desirable in our experiments, therefore, to

CHART I

Case	Age	Diagnosis	Treatment	Progress in 3 mos.	Hgb. ¹	R.B.C. ²	Sed. Test ³
1	43	Chronic ulcerative colitis, with secondary anemia.	Kao-Lactos B, ½ oz. t.i.d., p.c. in milk.	General improvement.	50-65	3,7-4,25	60/20-60/10
2	26	Avitaminosis.	Same.	General improvement. Gained 10 lbs.	72-90	3,6-4,5	60/10-do.
3	23	Ptomaine poisoning; avitaminosis.	Same.	General improvement. Gained 10 lbs.	80-85	4,5-4,75	60/30-60/10
4	60	Carcinoma of colon with marked secondary anemia.	Same.	Progressive failure.	40-20	4,25-2,5	60/30-60/10
5	10	Malnutrition; tonsillitis; avitaminosis.	Same.	General improvement. Gained 19 lbs.	65-80	3,5-3,75	60/15-60/10
6	12	Avitaminosis; secondary anemia; rickets.	Same.	General improvement. Gained 27 lbs.	65-80	2,5-3,75	60/30-60/16
7	34	Duodenal ulcer; secondary anemia.	Same (plus Sippy diet).	Improvement only after operation.	70-60	3,2-3,0	60/30-no. rec
8	12	Avitaminosis; secondary anemia.	Same (no Sippy diet).	General improvement. Gained 26 lbs.	65-85	3,25-4,0	60/20-60/10
9	45	Chronic cholecystitis (noncalculous).	Same.	General improvement. Weight of 180 lbs. unchanged.	80-80	4,0-4,0	60/30-60/10
10	17	Functional duodenitis.	Same.	Symptoms disappeared.	80-85	4,0-4,25	60/16-60/10
11	14	Bronchiectasis; avitaminosis.	Same.	General improvement. Gain of weight.	75-85	3,75-4,2	60/30-60/10
12	24	Enterocolitis; avitaminosis.	Same.	Symptomatic relief only.	70-65	3,75-3,5	60/30-60/30

Note 1.—Hgb.=hemoglobin percentages before and after treatment.

Note 2.—Red blood cell numbers are abbreviated thus: 3,7—4,25 equals 3,700,000 increased to 4,250,000, etc.

Note 3.—Sedimentation test by the Cutler method before and after treatment. The numerators of the fractions (60) show the time in minutes; the denominators, the number of millimeters of erythrocytes sedimented. (The normal sedimentation in this time is from 2 to 10 mm.)

supplement the fine colloidal kaolin with both vitamin B and lactose. The complete formula of the product* used in our experimental clinical endeavors consisted of: colloidal kaolin, approximately 50 percent; lactose, approximately 50 percent; vitamin B₁, 125 units; and vitamin B₂, 25 units per ounce.

Lactose may be considered as a milk sugar, not so sweet as ordinary sugar, less deliquescent, and said to have diuretic properties if given in large quantities. Some clinicians claim that it may cause purgation. By encouraging the growth of aciduric rather than proteolytic bacteria, it is said to exert a beneficial effect on the intestinal flora, when used in adequate doses.

Vitamin B

In considering vitamins B₁ and B₂, it seemed best to adopt the clinical rather than the physical point of view. The antineuritic and beri-beri-preventing properties of these vitamins have long been known. They are also known to be unstable substances that are by no means uniform. Various clinical adaptations have been reported. Funk showed that

*Kao-Lactos B, supplied by Crookes Laboratories, Inc.

pancreatic activity and carbohydrate utilization are dependent upon vitamin B. Cowgill showed that vitamins B and G (B₂) help to maintain appetite, increase it in proportion to intake, and exert a specific influence upon it. Cowgill and Gilman proved that vitamins B and G control gastric tonicity, increase digestion, and promote gastric juice production. We also know that they are important factors in growth, protect against nerve and brain diseases, and help to maintain and nourish nerve and brain tissues and to hasten their oxidation (Quigley; Peters and Kinnersley).

In this study, we were chiefly interested in the vitamin content of the product as a synergist to the action of colloidal kaolin. Functionally, in the gastro-intestinal system, it evidently is needed to maintain, increase and exert a specific influence upon the appetite, as Cowgill demonstrated. Vitamin B₁, *per se*, controls gastric tonicity and helps to regulate both carbohydrate and fat metabolism in the stomach.

The purpose of this investigation was to determine the effects of the adsorbents, plus vitamins B₁ and B₂, on a series of clinical cases, with particular attention to the organic and

functional aspects of each case. We arrived at the diagnoses in the usual manner; we outlined medication and home control, recorded findings and adjudicated end results, drawing our clinical material from the Jefferson and Philadelphia General Hospitals. We discussed and completely studied our patients from the dietary point of view, with an eye toward avitaminosis.

Out of a series of 48 cases, we are reporting 12 that were most thoroughly investigated. The data include: history, dietary regimen, physical examination, and laboratory studies over a period of three months, at monthly intervals. During our entire investigation, we kept in mind the practicability of the studies, so that they might be of value to the general practitioner. In the appended Chart I our salient findings are recorded, irrelevant material eliminated, and the only negative findings included are those of special import. It should be added that under no circumstances were other medicaments or home remedies allowed.

Most of the cases were those in which avitaminosis is to be considered a factor. In our series, we found the treatment responsible for a marked degree of general improve-

ment and feeling of well-being, increase of weight, increase in red blood cells and hemoglobin, and a lowering of the sedimentation rate. We employed the Cutler method of sedimentation as an indication of tissue destruction, disregarding the various causes. To further substantiate our findings, we studied one case of carcinoma of the colon to note the effects of the medication, and it is interesting to find that, while watching the progressive clinical course of the disease, some symptomatic improvement was seen. The patient felt better at times and often was free of symptoms, although the organic lesion, of course, progressed. One case of chronic cholecystitis, where operation was indicated from the onset, was relieved of symptoms temporarily, and later was operated upon. The patient's convalescence was uneventful and she seemed greatly benefited by the medication. In our functional cases of duodenitis and ulcerative colitis, excellent results were obtained. In one case of tuberculous enteritis, symptoms were relieved for a while. In most of the cases, relief from gaseous eructations and constipation was marked.

5400 Lebanon Ave.

Prophylaxis against Infection in Compound Fractures (With a Case Report)

By Porteous E. Johnson, A.B., M.D., New York City
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COMPOUND fractures which become infected, frequently go on to delayed union or non-union, or result in chronic osteomyelitis. This well-known fact makes it imperative that all infection must be avoided in these cases, if possible. The control of infection, once established, is not, however, enough to insure against these disabling complications.

Frequently infection can be avoided in compound fractures by early, thorough irrigation and debridement of the wound, followed by a careful skin closure; but in the presence of extensive damage to the soft parts, with contusion or skin loss, this is not often possible. In such cases the surgeon is faced with the almost impossible problem of deciding exactly which tissues are viable and which will necrose. If he debrides too widely he will sacrifice valuable and important structures, and if too conservative he will leave a wound which soon becomes lined with a necrotic slough. This slough makes an ideal culture medium, which frequently becomes secondarily infected while exposed

for inspection or change of dressings, even though it may have been bacteriologically clean at the time of operation. To prevent secondary infection from occurring in these cases, some sort of antiseptic dressing is generally used.

Many systems of continual wound antisepsis have been advocated and tried, but practically all of them have to face one or more of the following objections: They are (1) too irritating to permit normal repair to proceed in their presence; (2) too mild or selective in their action to kill organisms of all kinds and all degrees of virulence; (3) inactive in the presence of large amounts of organic material; (4) too complicated technically, requiring expensive equipment and special nursing care.

Recently it has been my practice to treat such cases of compound fractures, with extensive soft tissue damage or skin loss, by immediate cleansing and debridement, the latter consisting only of removal of the grossly contaminated and obviously devitalized tissues. Any questionable areas are left

widely exposed, and subcutaneous hematomas connected with the fracture area are incised and evacuated. I make no attempt to close the wound, as I feel that the subsequent swelling and edema will defeat the purpose and cause a more extensive loss of tissue through necrosis. Suture also prevents the easy accessibility of closed areas to treatment.

For the after-care of these wounds I have been using a relatively new organic chlorine compound, Azochloramid, in triacetin, 1:500.¹ This has proved to be non-irritating to the tissues, general in its bactericidal action,^{2, 3, 4} and active in the presence of organic matter.⁵ Moreover, it is sufficiently stable so that, for prophylaxis, dressings once daily are adequate.^{6, 7, 8}

For deep cavities, this solution can be instilled through a Dakin's tube; and in shallower and more accessible areas it is applied on gauze squares, which are kept on the dressing carriage in an enamel jar about one-third full of Azochloramid in triacetin. The entire after-care is easily carried out through a window in the cast, if that is the method used for immobilization of the fracture.

Within a few days the necrotic slough has usually separated sufficiently to permit its surgical removal at the bedside. Soon after the removal of the slough, the wound is lined with healthy granulation tissue and a plastic closure of the wound can be done, if necessary, at any time thereafter.

The following case report illustrates the technic and the results in a typical case.

Case Report

The patient was a white male, age 49, who was admitted to the hospital April 17, 1936, following a fall of four stories down a stair well, the fall being broken several times by striking the banisters. He was unconscious and irrational on admission. His previous and family history was unobtainable.

Examination showed an adult white male in rather severe shock, and bleeding profusely from a scalp wound and from a compound fracture at the junction of the middle and lower thirds of the left tibia. The scalp showed a 4-inch curved laceration of the vertex, extending through the periosteum of the skull. The left leg presented a compound, oblique fracture, with a contused wound about $\frac{1}{2}$ inch in diameter, through which the distal end of the proximal fragment was palpable. Over the antero-lateral aspect of the leg, proximal to the fracture site, there was a large, abraded, tense, ecchymotic hematoma, about 3 by 4 inches in size. Pressure on this mass expressed a large amount of thick, dark blood from the wound. Further physical examination was negative,

except for many minor contusions and abrasions, signs of shock, and carious teeth.

An infusion of 20 percent dextrose in saline solution was started at once, and an immediate closure of the scalp wound was done. Following recovery from the primary shock, the patient was removed to the operating room, where the wound was debrided and the fracture reduced. The hematoma was then incised vertically and evacuated. The skin and subcutaneous tissues of the hematoma were found to be contused and infiltrated with blood. A Dakin's tube was placed in each wound and covered with a light packing of gauze, and the leg and thigh were immobilized in a plaster of Paris casing, leaving a window exposing the wounds. Enough Azochloramid in triacetin, 1:500, was then instilled into each tube to saturate the gauze, and daily instillations of 1 ounce were ordered.

The maximum postoperative temperature was 101.0° F., and after about 60 hours it was normal. The wounds were dressed and the packing removed on the fourth day (April 21). The entire lining of the hematoma cavity appeared necrotic. The tubes were removed and orders given for the wounds to be dressed daily with Azochloramid-soaked gauze. A culture from the wounds showed no bacterial growth.

On the twelfth day (April 29) the patient's temperature was normal and the necrotic lining of the hematoma was sufficiently demarcated for surgical removal. The necrotic tissue was removed at the bedside without anesthesia. It consisted of a skin margin averaging about $\frac{1}{2}$ inch in width, the full thickness of the subcutaneous tissues, and the deep fascia covering the tibialis anticus muscle. The wound was repacked with Azochloramid gauze. Culture from the debrided material showed no growth. The temperature remained normal.

On May 15 the wounds were granulating nicely, except for a few small areas where shreds of necrotic deep fascia still remained; and on May 25 the wounds were completely lined with healthy granulations. Wound cultures were repeatedly found negative.

On June 10, clinical and x-ray examination, without the cast, showed fairly solid union, but plastic closure of the skin defects was delayed until manipulation under anesthesia, without support, was considered safer. Daily Azochloramid dressings were continued.

On June 24, intermediate skin grafts were transplanted to the ulcer areas from the left thigh, and Zeroform ointment pressure dressings were applied to both the donor and recipient areas. On July 1, practically a 100-percent take of the grafts was found. There were a few small pustules about some of the

sutures, which were removed and Azochloramid dressings again applied.

On July 10 the wound was completely healed and the fracture showed solid union clinically, and considerable callus by the x-rays. The patient was up on crutches, wearing an Ace bandage over the leg.

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924 Summit Ave., Bronx.

Gonorrheal Infections of the Bladder and Kidneys

By Winfield Scott Pugh, M.D., New York City

AS far as the bladder is concerned, it may definitely be stated that only one part of it is ever involved in a gonorrheal infection. The region affected is a triangular area in the bladder neck, known as the trigone. It extends along the bladder floor, from the orifices of the ureters to the internal urethral opening. Its structure is practically identical with that of the urethra and the ureters. In all its other portions, the bladder structure is very different and apparently is non-susceptible to gonococcal attack. We can thus eliminate bladder disease *per se* in gonorrhea. When a deep infection of the urethra is present, as it invariably is in all cases, the trigone also carries the burden of the disease. In these cases, however, there is much greater danger of the infection passing up into the kidney than there is of its going over the trigone into the bladder proper.

It has always been my impression that considerably more gonorrheal disease of the kidney exists than we realize, but a careful survey of living and autopsy material has failed to confirm this belief. Throughout a period of almost thirty years, I have encountered only one case in my own practice, although I have seen 4 in the services of other physicians. The entire literature shows but 27 cases reported. Are these cases the result of a systemic or an ascending infection? I am inclined to believe that they are part of a so-called gonorrheal septicemia.

Simmons, a few years ago, surveyed this situation in a very thorough way. The possibility of infection reaching the kidney immediately suggests two likely ways: by way of the blood or the urinary system. During the course of most acute infectious diseases, bacteria have been proved to enter the blood

stream. This has been shown repeatedly in the case of the gonococcus. The frequent cases of gonorrheal rheumatism demonstrate, not only that the gonococcus enters the blood stream, but also suggest, in a very modest way, the frequency with which it does so.

It has been demonstrated also that bacteria may readily pass from the infected blood stream through the normal kidney without producing disease. If these bacteria are few in number or of less virulent type, the healthy kidney does not become infected. If, however, they are abundant and of a virulent strain, or if there exists a defect in the kidney itself, or one resulting in the stagnation of urine in the kidney pelvis, an infection of that organ will occur. As these conditions are rarely fulfilled in an attack of gonorrhea, the infrequency of gonorrheal kidney complications is probably thus explained.

Simmons further states that, upon superficial consideration, the urinary route suggests the more likely source of kidney infection. However, when the defensive mechanism of the urinary system is considered, this route must be of secondary importance, particularly in gonorrheal infections. The usual port of entry for the gonococcus is the anterior urethra. By direct extension, in a certain number of cases, the infection reaches the bladder neck. The ureter, however, seems doubly protected against further invasion. These are very important points in medico-legal cases. The ureter is first protected by the sphincter action of the bladder wall or the ureter. As a matter of fact there is really a fold of tissue forming a valve at the entrance of the ureter into the bladder. This fold holds so strongly that unless it is diseased we cannot force fluid up the ureter by over-distending the bladder.

A second preventive barrier is the continuous flow of urine from the ureter into the bladder.

Any inflammation, starting in the ureter at the bladder, would also, of itself tend to prevent an extension upward of the disease. Several other routes have been proposed for kidney infection. One is by a special uterorenal circulation demonstrated by Sampson, but this in reality does not actually touch the kidneys. The remaining source of infection is by the lymphatic channels. At this time there is known to be a connection between the lymphatics of the bladder and the kidney, but it is interrupted so often that it does not seem a likely channel. I think the only case of record that could definitely be linked with lymphatic extension was an instance of multiple gonorrheal abscesses, reported by Stanton in 1913.

To obtain definite proof that there is a gonorrheal infection of the kidney, the organisms must be demonstrated in the pus or tissues. Simmons says that, of the 25 cases in the literature up to 1913, in only 15 was the gonococcus actually found. This, I feel, reduces the number of cases considerably, as many other organisms will give rise to symptoms of kidney infection. Sixteen (16) of the cases reported in this group were males, one occurring ten days after the original infection in the urethra. The case reported by Stanton developed nine years after the original gonorrhea. This, we know, must be annoying for a gonorrheal patient to ponder over.

Case Report

There is so little information available for study in the cases reported to date, that I believe the readers will be interested in first-hand information of my own case.

The patient was a young white woman, twenty-two years of age, a native of the United States. Her previous family and personal history is of relatively little interest,

with one exception: she denied any possible venereal infection.

Present Illness: I was called to see this young lady, who was a patient in the hospital, in September, 1928. Two weeks previous to my visit she had had an abortion performed, apparently at about the fourth month of pregnancy. On the following day she developed chills and fever and gradually a mass appeared over the left kidney. When I saw her, the mass was so large that it could be seen as well as felt. The patient was thoroughly septic and her condition was wretched. I suggested a vaginal examination, which, for some reason, she did not wish; but, by insisting, I finally obtained her consent to a complete observation. Almost before I had entered the vagina, I found a huge pelvic abscess.

It was at once evident that the primary source of infection was not in the kidney, but in the lower genital tract. The pelvic abscess was first opened through the vagina, and a large amount of greenish pus was evacuated. Cultures from this material showed gonococci in abundance. Next, in the same sitting, I incised the swelling over the kidney. Upon passing through the muscle planes of the back, I opened a large abscess cavity, with the kidney in its center. In fact, the organ was so close to the surface that I saw, almost at once, that the abscess was connected directly with it. An opening into the kidney was found and cultures were taken from both it and the surrounding areas. All of the cultures and slides showed gonococci.

Further study of this case revealed that this young unmarried woman was probably infected with gonorrhea at the time of her impregnation.

There are no signs of a gonococcus infection of the kidney that are characteristic. One sees merely the symptoms of a kidney infection or abscess in or around that organ.

104 East 40th St.

MULTIPLYING SAFETY

When your speedometer goes to 50, think of 55 feet. That is how far the car will travel after you decide to stop, before your foot can touch the brake pedal. When the speedometer says 40, think of 44 feet; if 30, think of 33 feet, and so on. Experts call this the "reaction distance."

To find out how much room you need to stop safely at 40 or 50 miles an hour, multiply the "reaction distance" by three. At 50 miles an hour, you would multiply 55 by three, and know that a distance of 165 feet would be necessary to stop the car. — BARNEY OLDFIELD, in Chicago Journal of Commerce.

KNOWLEDGE AND FREEDOM

If a nation expects to be ignorant and free, in a state of civilization, it expects what never was and never will be. We must educate and inform the whole mass of people. — THOMAS JEFFERSON.

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FOR OFFICE THERAPY

RUSSELL A. WINTERS, M.D.

The Injection Treatment of Hernia*

Part II

By Albert W. Dowson, M.D., Chicago, Ill.

THE credit for the discovery of the injection treatment of hernia has been accorded to Dr. M. Valpau, who, in 1835, treated a number of patients successfully by injecting iodine into the inguinal canal. Doctor Pancoast, in 1844, used a mixture of cantharides and iodine, which he injected into the hernial sac. Doctor Heaton, in 1878, used an injection of quercus alba, with good results.

During the past twenty-five years, the technique and the solutions have been revised and improved by Doctors Bratrud, Field, Mayer, Mestre, McDonald, Souder, Walling, and many others, who have contributed to the progress of this method of treating hernia. Their line of march has been forward and unwavering, although they were confronted with many disheartening and humiliating obstacles.

Solutions

A few years ago proliferant solutions, with the uncertain character of their ingredients, dose, sterility, and stability, were passed along from one physician to another for trial. These mixtures were usually prepared under adverse circumstances, without any kind of testing or laboratory research, and were used for the injection of hernia patients. The several varieties of reaction, both local and general, were responsible for the many and too-frequent complications encountered.

There are now several solutions that have been scientifically compounded, standardized, and tested, in the laboratory and clinically, by pharmaceutical chemists and physicians, which are economical and safe to use in this specialty. These preparations are now available to the profession. The average doses of the solutions, as given by the distributors, are within a reasonable range of safety and can be adapted to almost any technic.

The seroplastic-producing solution used should be non-toxic, sterile, and painless. Its tissue reaction should be that of a mild irritant, not caustic or escharotic. It should produce firm, healthy, mature fibrous tissue within a reasonable length of time.

When a proliferating solution is to be used requiring a local anesthetic, the needle is inserted through the skin, fat and the fascia of the external abdominal oblique muscle, down to the internal inguinal ring. Aspirate to be certain that a blood vessel has not been penetrated by the needle. Inject 2 cc. of 2-percent procaine solution. The syringe then is detached from the needle, which is left in place. After waiting five or ten minutes, the area about the internal inguinal ring should be sufficiently anesthetized for painless treatment. Through the needle that is in position, inject the proliferant.

The Truss

An oblique inguinal hernia, after reduction,

*This is the second part of a four-part serial article.

may be retained with a comparatively small amount of mechanical pressure. The direct hernia, in many instances, requires a large amount of mechanical force to retain the hernial mass within the abdominal cavity. There are many hernias that cannot be maintained in reduction, mechanically, without rest in the recumbent position in bed.

However, the pressure applied should never be of such degree as to cause any pathologic change in the skin. Too much attention cannot be given to the fitting and the adjustment of the truss, prior to, during, and subsequent to the injections.

The object to be attained by the application of the mechanical appliance is to close the opening, through which the protrusion has taken place, by means of external pressure, and thereby, after reduction has been effected, to prevent the descent of the hernial mass; to remove the internal pressure from the tissues of the lower quadrant of the abdomen, permitting it to regain its normal tone before making any injections of proliferating solution; and to mould the contour of the tissue formation during and following the treatment.

The truss should be worn for a week or ten days or more prior to the injections, as the nearer to normal the orifice and the tissues return before the injection of the proliferant is begun, the more satisfactory will be the results.

The carefully fitted hernial support is important, as a protrusion of the hernia, after the injections of the seroplastic-producing solution have been made, may cause a strangulation of the bowel that might have to be released by surgical operation. Prior to making any injections, the patient must be fitted with an appliance that will retain the hernia easily and with such security that the corrective support is not lessened or impaired by change of occupation or posture, as in sitting, stooping, walking and, in particular, when lying on the back with flexed thighs and legs. The means of support must afford positive resistance to prevent hernial descent, rather than active pressure which, when furnished by a spring or a strong elastic band, yields under strain and returns to its original form when the strain is removed.

The pressure of the truss pad should be uniform throughout the area in contact with the skin. It should accommodate itself to the contour of the body and should not bear in at the top or bottom, thereby producing erosions of the skin. Those patients who are obese, have pendulous abdomens or ptosis of the abdominal viscera, should, in addition to the truss, be fitted with an abdominal support.

The truss must be worn day and night during the course of injections, and during the day, subsequent to the treatment, until the new tissue has closed the hernial aperture and

become firm enough to retain the viscera within the abdominal cavity. This may require from one to several months, depending upon the size of the orifice and the ability of the patient to produce the required amount of tissue to bring about satisfactory results, at which time the appliance may be discarded.

The truss should not be removed nor any adjustment made of it during the course of the injections, except under the supervision of the operator.

It is imperative that the mechanical device retain the hernia, be comfortable for the patient at night as well as during the day, and that the skin under the pad be kept clean. These conditions can be best maintained by regular and frequent inspection of the mechanical appliance and observation of the patient.

Truss complications are avoided by having the appliance, under the direct supervision of the operator, fitted and adjusted prior to making the injections, by an experienced and cooperative orthopedic mechanic. He should be informed that the patient is to be treated by injection, to enable him to supply the patient with an appliance that is adapted to this method of treatment. This arrangement eliminates the time-consuming detail and will prove most satisfactory to both the patient and the physician.

The patient must be advised of the importance of retaining the hernial support in the position it is placed by the operator; interference or adjustment of it should not be tolerated by the operator in a patient treated by the injection method, any more than the removal of bandage, dressings or sutures by the patient would be condoned by the surgeon, who has performed a surgical operation for the correction of hernia.

The truss, in the injection treatment of hernia, is just as important as the splint in the treatment of a fractured bone; both have been designed to bring about anatomic and physiologic rest to the part to which they are applied. The hernial support, like the splint, must be kept properly adjusted, comfortable, clean, and frequently inspected by the operator.

Each hernia presents its own problem. An appliance that might hold the hernia in reduction in a given case may be useless in another patient. It is advisable to select the support best suited for the case under treatment, regardless of manufacture or style.

The application of a firm pressure-pad of felt, rubber, or gauze, held in place with a spica bandage about the groin, on more than one occasion has saved the day in cases difficult to maintain in reduction.

Reduction of the Hernia

If a hernia is strangulated, an attempt

should always be made to reduce it into the abdominal cavity in a bloodless manner (by taxis), provided the operator can exclude gangrene of the contents.

The procedure is as follows: The patient lies on his back upon a table, the foot of which has been raised six or more inches, with the thighs and legs flexed for relaxing the abdominal walls and removing the tension from the hernial opening. Next by gentle, gradually increasing pressure with the finger tips and the whole hand, the operator attempts to reduce the hernial contents into the abdominal cavity. If by this manipulation the hernia does not recede, the operator may try to obtain the desired end by drawing the hernia forward, by lateral manipulation to and fro, by massage, by directing the pressure upon the neck of the hernial sac, and by reducing only a little of the contents at a time.

The use of anesthesia may aid these attempts by securing complete relaxation of the abdominal muscles and insensibility of the patient to pain. A cold application is often of service.

All these attempts must be made gently and persistently, without exerting too much force; they must not be continued too long, for herniotomy is less dangerous than taxis continued too long and made too forcibly.

If, however, all these endeavors have proved unsuccessful, herniotomy must be done at once, probably followed by plastic repair.

Technic

The technic which is herein described has been employed with satisfactory results for the past three years. It could be termed the "layer-by-layer, from-within-outward procedure," similar to that employed in the surgical repair of hernia.

In the injection treatment of an indirect inguinal hernia, the internal inguinal ring, the inguinal canal, and the external inguinal ring

are injected, in the order named. The direct inguinal hernia is corrected by reinforcing Hesselbach's triangle and injecting the inguinal canal and the external inguinal ring in the same order.

The hernia orifice is treated with multiple injections in the tissues about the ring, through the one insertion of the needle through the skin, fat and the fascia of the external abdominal oblique muscle. The canal and the external inguinal ring, as well as Hesselbach's triangle, are treated in a like manner.

Marking with adhesive plaster or tattooing the skin is not necessary, as the site where the injections have been made may be palpated with the finger.

The inguinal canal and the external inguinal ring are patent, so that the position of the anatomic structures may be readily determined, as well as the course of the inserted needle and the location of the injected fluid, until the repair of the hernia has been completed by the closure of the external inguinal ring.

A general examination should be made of each patient, including a Wassermann test and erythrocyte and leukocyte counts. The urine should be given the routine chemical and microscopic examination. Where there is any suspicion or doubt as to the presence of tuberculosis, microscopic examination is made of the sputum.

The most frequent types of hernia, occurring as the result of alleged accidents in the course of employment, are the direct and indirect inguinal hernias. The detailed technic will be given for the correction of a typical case of each of these conditions. However, the femoral, the umbilical, and some types of incisional hernia may be successfully repaired by the injection method of treatment.

175 W. Jackson St.

(To be continued)

HORMONES AND BEHAVIOR

The behavior of an individual would seem to be determined by three things: 1) What he comes into life with—his hereditary background; (2) his external environment; (3) his internal environment. It is only through this last channel that the direct effects of hormones on human behavior can be manifested. Indirectly, hereditary factors and the external environment can produce changes in the hormone patterns of the internal environment, and thus each of these three can influence behavior indirectly through the hormones.—DR. JAMES B. COLLIP, in *The Scientific Monthly*, Nov., 1936.

ENJOYING PEOPLE

The important point is, not how few people one enjoys, but how many more one would enjoy if one were not too selfish to make the necessary effort. The habit of seeing the unworthiness of other people is usually the by-product of a selfish attitude.—HENRY C. LINK, Ph.D.

Undescended Testicle Contraindicates Injection Treatment of Hernia

(A Case Report)

By Samuel W. Fowler, M.D., New York City

THE literature of the injection treatment of hernia is completely consistent in considering an undescended testicle on the affected side as a strictly surgical indication and as definitely contraindicating the injection treatment. Even when the testicle can be located by palpation and avoided in injecting, the pain from the pressure of the necessary controlling truss cannot be tolerated. Then, too, the normal subacute inflammatory reaction initiating the repair process is very likely to extend to the involved testicle and become aggravated to intense pain. Furthermore, the injection treatment obviously affords no such direct means for transplanting the testicle as surgery provides.

When, therefore, a patient came to me in June, 1935, with a recurrent right inguinal hernia, associated with an undescended testicle, I declined to treat him by the injection method. But he was most insistent, pleading that his very living depended upon it. He had passed a civil service examination, but was told by the examining physician that he must get rid of his hernia in order to qualify. I pointed out that he was still a young man of only 30 years, that his hernia was of long standing (15 years), and that he could and should properly undergo another surgical operation. But he had been operated upon in 1930 and the hernia had recurred in 1932, so he refused to consider surgery again, especially as he had been advised that recurrence was even more likely after a second operation. I also learned that during the operation the testicle was found to be atrophied and had therefore been placed and "anchored" within the abdominal wall. It was this which finally persuaded me to undertake to treat the case by injection. With the testicle thus definitely out of the way, there seemed no valid reason for not treating the hernia by this method.

However, the course of the case, under the treatment, later cast serious doubts on the soundness of this apparently reasonable assumption. At first the case proceeded quite normally, without complications of any sort. But presently it became clear that it was somehow going to prove refractory, for the expected closure was not being effected. For some reason the growth of repair tissue was not progressing normally, even though the injections were continued over an unusually long period.

Finally, in September, the unexpected happened. The patient came in complaining of

pain. Examination revealed that the testicle had come through the internal ring into the inguinal canal, the pain evidently being due to pressure of the truss upon it. Under the circumstances there was nothing to do but remove the truss, desist from further injections and watch closely for complications demanding surgical or other interference.

The patient came in at frequent intervals, and the examinations quickly disclosed that the testicle was moving down the inguinal canal. As it travelled, there was more or less persistent pain, which continued for some four weeks, until the testicle passed through the external ring and entered the scrotum.

This accomplished and the pain disappearing, the truss was replaced and the treatment of the hernia resumed. But again the case proved refractory, the repair being unduly slow. Finally, however, complete closure was secured by an extended series of injections. Recent examinations indicate a firm and lasting repair of the hernia, with the still-atrophied testicle at least in its proper place.

The results, though altogether as happy as preexisting conditions could possibly warrant, nevertheless point to the danger of treating by injections any hernia with an undescended testicle present. The irritant needed to stimulate hernial repair can apparently revive the interrupted activities of the gubernaculum or other structures involved in the normal fetal and infantile descent of the testicle. It may also effect some closure of the canal and so obstruct the renewed testicular descent. The possibilities of complications are apparent.

In all such cases, therefore, surgical repair of the hernia and transplantation or removal of the testicle are advised. Removal of the testicle, when seriously atrophied and probably functionless, seems desirable. Then, in the event of actual or threatened hernial recurrence, the injection treatment can be used for secondary repair or reinforcement, without danger of complications from this source.

On the whole, it is highly advisable to make a thorough examination of the testicle and cord a routine procedure before employing the injection treatment for hernia. The hernia itself and the long-continued pressure of a truss are often responsible for the frequently observed swollen cord and atrophied testicle. McMillan and Cunningham found about 8 percent of their hernia

cases suffering from the latter condition.* Though neither condition contraindicates the injection treatment, it is well to establish the fact of their existence before treatment, as a measure of legal protection and to help clear up any misapprehension as to a causal

*McMillan, W. M., and Cunningham, D. R.: *Injection Treatment of Reducible Hernia. J.A.M.A.*, 106:1791, May 23, 1936.

relation between the injection treatment and these conditions subsequently observed. If, however, this routine examination discloses the absence of the testicle from the scrotum, the case should definitely not be treated by the injection method, but recommended for surgical handling.

126 East 40th Street.

NOTES AND ABSTRACTS

The Prevention of Cancer

A CRITICAL examination of the subject discloses the fact that the study, the efforts, and the advice now extant do not really have anything to do with the actual prevention of cancer, but rather with the prevention of death from cancer after the disease is present. The campaign lays emphasis upon the early recognition and the prompt removal or suppression of the initial lesion, before metastasis has occurred, and has indubitably preserved and prolonged the lives of many cancerous patients, so that it deserves active professional and lay support.

The actual prevention of cancer, however, is a decidedly different matter. It necessitates recognizing a potential cancer patient before any initial lesion exists. Inasmuch as there are certain biophysical and biochemical phenomena now recognizable when cancer exists, we may entertain the belief, and even a lively hope, that by their use we may be able to recognize a potentially cancerous person before any cancer lesion exists and thus be able to institute prophylactic measures in order that the patient may never develop cancer as an active disease.

Our present attitude towards the cancer problem is plainly due to the method of approach. It has almost entirely concerned itself with pathologic histology and with a study of cancerogenic irritants, mechanical, thermal, chemical, or electromagnetic. The work of Slye and of Burr indicate that there is also an hereditary factor.

Certain tests confirmatory of existing malignant disease, such as the Vernes' test, the blood shift toward alkalosis, the changed cholesterol index, the disturbance of the potassium-calcium relation, the variation in glycolysis from normal, the relation of histamine, of salt, and of adrenalin, all suggest the hope that we can make use of these tests to

detect potential cancer long before any initial lesion is apparent.

In this connection, the remarkable work of Dr. H. S. Burr, of Yale University, is most impressive. He has bred two strains of mice for some forty generations. One strain he finds is 5 percent prone to cancer, while the other strain is 90 percent susceptible. By means of a newly devised vacuum-tube microvoltmeter, he is able, by reading on a scale the electrical potential between the forepaws of the mouse, to pick out from a mixed group those mice which are ninety percent susceptible to cancer, though none of the mice actually has a cancer lesion.

Here, then, are some suggestive phenomena which lead us to believe that we may soon be able to detect persons, apparently healthy, who are likely to develop cancer.

With such knowledge in our possession, the actual prevention of cancer would resolve itself into taking such measures as would restore the body to a normal physiologic condition. These measures, we suggest, will have to do with the electrochemical relationships, rather than with the present conception of pathogens and antigens. We would expect that diet, drugs, and ultra-short-wave radio (in subthermal doses) will play a large part. We say this because of the well-known fact that cancer is always attended by a state of alkalosis. Possibly some very simple remedy, such as hydrochloric acid, as suggested by Benner, or lactic acid, as suggested by Sokoloff, may prove to be highly valuable in restoring the normal pH of the blood. If such should prove to be the case, the actual prevention of cancer would be finally attained.

A further thought suggests itself; we may also have placed in our hands a treatment for those cases of cancer which are now declared inoperable or hopeless by the surgeon and the radiologist.

F. T. W.

Pulmonary Mycotic Infections*

ROENTGENOGRAMS of the lungs may permit a diagnosis of the mycotic infections, especially coccidioid granuloma, blastomycosis, actinomycosis, streptotrichosis, torulosis, and moniliasis. From the standpoint of geographic distribution, certain of them, such as blastomycosis, are important in the Middle West. Each may simulate, to some extent, certain of the varied appearances of pulmonary tuberculosis; but, on the whole, only the minority characteristics of that disease.

The diagnostic points favoring a mycosis are: Outstanding mediastinal or hilar adenopathy in an adult; adenopathy associated with vague or profuse miliary lesions; absence or scarcity of dry, air-containing cavities in advanced lesions; unusual pleural lesions, especially gross thickening or encapsulations; absence of older apical or subapical lesions; growth of the lesion by continuous spread; extension of lesions to the thoracic wall, with bone and soft tissue involvements; bronchiectatic manifestations; lesions elsewhere, such as nodules or ulcers of the skin or lesions of the bones and joints; terminal meningeal symptoms are more frequent in mycosis.

RAY A. CARTER, M.D.

Los Angeles, Calif.

X-Rays in Chronic Tuberculous Coughs

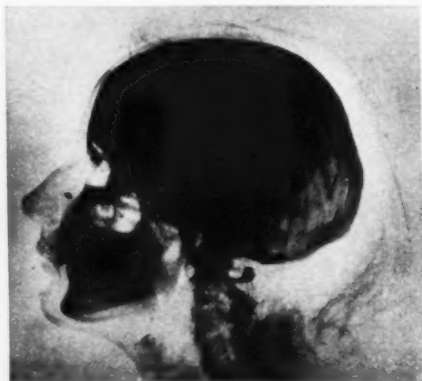
THE chronic cough in tuberculosis is frequently due to involvement of the mediastinal lymph nodes. If such a diagnosis can be established, and there is reasonable certainty of absence of parenchymal lesions, treatment with x-rays is often helpful. The dose for children is 104 K.V., filtered with from 4 to 6 mm. of aluminum (A.U., 0.16). Irradiations are given every 3 to 7 days (depending on the severity of the cough), using sternal and dorsal fields, with the radiation directed at the mediastinum, which receives about 150 r at each dose.—URSUS V. PORTMANN, M.D., in *Cleveland Clin. Quarterly*, Jan., 1936.

Pyretotherapy

FACTORS other than pyrexia would seem to be responsible for any benefit which may follow artificial fever therapy. The maximum temperature employed in fever therapy (107°F.) has little effect on bacteria, even over a 24-hour period, with the possible exception of the gonococcus.—DR. L. THOMPSON, in *Proc. Staff. Meet. Mayo Clin.* 11:319, 1936.

**Radiology*, May, 1936.

NEWS



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Photographing Bone and Soft Parts Together

IN certain conditions it would be a great advantage to have a roentgenogram showing both the bones and the overlying soft parts, but for obvious reasons, this has, hitherto, been impracticable.

Dr. Werner Teschendorf, of Cologne, Germany, has devised a method for doing this by spraying the skin with a suspension of barium sulphate in liquid soap or with Iodipin in petrol-ether, before making the roentgenogram, using a pressure sprayer similar to that employed in applying lacquers. Such pictures of the head and face are particularly useful in prosthetic dentistry, and when made as stereograms give an astonishing amount of information.

The cut above gives a rather inadequate idea of the results obtainable by this method. Even the outline of the hair is shown.

Fever Therapy Conference

IN conjunction with the International Conference on Fever Therapy, to be held at the Waldorf-Astoria Hotel on March 29, 30, and 31, 1937, a scientific and commercial exhibit will be staged. Clinics will be held at the College of Physicians and Surgeons, Columbia University, New York City.

A large attendance of fever therapists from all over the world is expected. An interesting and instructive program has been arranged and all of those who plan to attend the conference are urged to register promptly with the general Secretary, Dr. William Bierman, 471 Park Avenue, New York City. The registration fee is \$15.00.

A LIVING FOR THE DOCTOR

(The Business of Medicine and the Art of Living)



The County Society and the General Practitioner

WHETHER the membership be conscious of it or not, the County Society is the molecule in organized medicine, and upon its structure and behavior depend the usefulness and strength of the larger organized units.

Unless increasing the usefulness of qualified physicians be the objective uppermost in the minds of those who control county organizations, there can scarcely be any justification for having a County Society at all. If we assume that each physician starts out qualified, then the obligation of the County Society is to keep him qualified. Like the aging of spirits, the proficiency of the physician should increase with time.

In the past, the affairs of the County Society have more or less remained in the hands of the same clannish group. These individuals could only see those medical problems that affected them in their own sphere, and hence anyone whose practice or whose position did not place him on the same social or professional plane, was left to grapple with his own problems.

The building up of confidence in qualified physicians, on the part of the public, is a major obligation of Organized Medicine. To bring about this confidence is a moral duty, and when the County Society learns this lesson and directs its energies to this end, the public attitude will become such that attempts to legislate irregular practitioners out of business will eventually become unnecessary.

Since all private, semi-private, and public hospitals are located in some county, and since the physicians who staff them hold memberships in the County Society, through this medium we have the necessary machinery to render a broader service to the general practitioners.

The County Society can, to a large extent, control the attitude of a physician towards his patients, and nothing helps a physician more than to have his patients get the impression that he has a personal interest in their welfare. I have heard the statement

many times, "When you go to doctor so and so, you are just another patient."

Each County Society should compel each physician practicing in the county to keep in touch with the hospitals of that county. If the men who staff the hospitals are selected on the basis of proficiency, and represent the best in each locality, surely the less fortunate should be able to get something from contact with this superior group.

Each physician should be required to send all cases of serious sickness to a hospital. He should be required to send his history and an outline of his management of the case, while under his care, to the hospital with the patient, and this should become a part of the hospital chart. He should be required to visit his patient at sufficiently frequent intervals to acquaint himself with the management and response to treatment on the part of the patient until the case has been disposed of. This procedure, in due course of time, would become a dependable yardstick by which the County Society could measure the abilities of all physicians practicing therein.

Each modern and well-equipped hospital should be required to establish a diagnostic clinic for those problem cases which do not necessarily require hospitalization. A flat fee should be charged and should be distributed among the staff of examiners working on this service. This fee should be sufficiently small to make it possible for a majority of the residents of the county to pay, and should be paid in advance. When a physician refers a patient to this diagnostic service, the examining staff should send him a comprehensive report and, if the case is interesting enough, should assign this physician to the scientific program for one of the Society's meetings, for the presentation and discussion of it.

Having been in general practice for more than twenty years, it seems to me that the carrying out of these suggestions would go a long way towards keeping up the proficiency of the profession and building up good will

between the practitioners; and a larger measure of respect for the profession, on the part of the public, would be an almost inevitable result.

LAWRENCE GREELEY BROWN, M.D.
Elizabeth, N. J.

[These are pertinent and constructive suggestions, and while all our readers may not agree with them, they are worthy of serious consideration, especially in these days when the future of our profession seems so uncertain.]

If any disagree with Dr. Brown, we will be glad to publish any sound and logical reasons. And if any have better or more practical ideas, we shall be glad to see them in writing.—Ed.]

The Doctor and Old Age Retirement Taxes

FEDERAL old age benefits, under the Social Security Act, are entirely administered by the Federal Government, and wages of workers in (roughly termed) industrial and commercial establishments in the United States and its possessions, will, in 1937, be counted in the computation of benefits. The main purpose is stated to be to provide an assured retirement income to wage earners when they have reached the age of 65, these benefits to be based on the wages they have received.

The money to cover the cost of these future old age benefits is raised by taxation of employers and employees, and the liability for these taxes begins January 1, 1937. The employer will deduct 1 percent for 1937, '38, and '39 from the employee's pay on each pay day, and the employer is responsible for making this deduction and transmitting the money, together with his own, to the Federal Government. The employer pays an amount equal to that deducted from the employee's pay.

The Social Security Act defines employment, for the purpose of determining old age benefits as, "Any service, of whatever nature, performed within the United States by an employee for his employer, unless specifically excepted in the Act." Every person is an employer who employs *one or more* individuals, therefore physicians who hire one or more individuals for service of any sort (secretary, nurse, stenographer, technician, etc.) come under the act as employers, and any person rendering him services as an employee comes under the Act. Taxes will be paid on all wages amounting to \$3,000 or less, no matter how small.

Every employee is required to make application for an account number, to be assigned to him under Title VIII of the Act.

Application blanks may be procured at your local post office.

Every employer liable for tax shall keep accurate records of all remuneration paid to his employees after Dec. 31, 1936, for services performed for him after that date. This record shall show, with respect to employees:

1.—The name and address of the employee and the account number assigned to him or her under the Act.

2.—The occupation of the employee.

3.—The total amount and date of each remuneration and the period of services covered by such payment.

4.—The amount of employee's tax withheld or collected with respect to such payment.

At the time each payment of wages is made to an employee, his employer shall furnish a written statement to the employee, showing the amount of employee's tax deducted from such wages.

As many physicians employ at least a secretary, and frequently one or more other assistants, either regularly or intermittently, it is highly important that those who do so should discharge their duties in regard to this tax. Postmasters are prepared to give information, and should be consulted.

G. B. L.

Parking Your Car

THE really simple task of worming a car into a certain gap in the row of cars lining the curb is something that troubles many motorists, including some that have years of road driving to their credit. There are drivers who spend unreasonable time and effort trying to work their cars into a parking place of ample size, and others who wear their own tempers and other car owners' fenders and bumpers in vain attempts to wedge a car into a space plainly too small for the purpose. For the benefit of drivers none too sure of their parking ability, here is a sure-fire system.

If the available parking space is three feet longer than your car, you can make it, if you go about it as follows: First, drive your car parallel to the forward parked car and 1½ feet to the side of it, until the rear end of your car is even with the rear hub cap of the forward parked car.

Second, with the transmission in reverse, start the car rolling back, while turning the front edge of your front wheels as far as possible toward the curb, until your own seat is even with the rear of the forward parked car.

Third, straighten the wheels of your car and come back for a distance of about two feet. Now, with the front edge of the front wheels of your car as far as possible away from the curb, slow the motion of your car

by applying the brakes until you feel the bumpers touch.

Fourth, put the transmission into "first" and engage the clutch. As soon as the car starts to move, turn the front edge of the front wheels toward the curb and let the car go ahead until it touches the car ahead. Put the transmission in reverse, engage the clutch and back up about eighteen inches.

If these directions are followed, the maneuver will bring your car to the center of the parking space and about six inches from the curb—and neither your own nor the adjoining cars' fenders will be nicked or scraped in the process.

W. R. BAMFORD,
Service Director, Chrysler Motors.

The Social Duties of the Practitioner*

A TOUR of medical inspection in the schools offers the medical hygienist an incomparable opportunity for experience. It is there that one encounters directly the negligence of certain ones, the consciencelessness of others and the ignorance and foolishness of a great number of people.

Last year, after an examination, I sent a notice to a little girl who was able to do nothing in her classes. The vision in her right eye was 1/20 and the left 6/20. Because she was poor, the little one obtained, through the help of the school nurse, some spectacles of the proper strength. This year, when I found the child not wearing her glasses, she explained it thus: "Mama told me that I did not need to wear the glasses any more and she put them away." It is unnecessary to remark that another examination immediately proved that the vision was still as defective as ever.

The same sort of thing happened in another case where a child was suffering from severe myopia.

Some physicians may think that cases like these are of no interest, but we are no longer living in the time of Hippocrates nor in that of Moliere, who fulminated, with reason, against the ignorance of the medical men of his day. Since Pasteur the physician has evolved, not only in connection with the precision of his weapons for fighting against illness in the medical and surgical fields, but in 1935 every medical man who prides himself upon being a true physician has a social part to play and the grand vision of the prophy-

laxis of disease stands before us, and in all civilized countries we must work along those lines.

Whenever the physician comes in contact with a family he must take the opportunity of informing the mother regarding the things she should do in order to prevent sickness in her family. The physician can thus render a tremendous service to society as well as, at the same time, opening up a new source of income.

Unfortunately, we are likely to forget that we must play a considerable part in the advancement of social conditions, and it is necessary that every physician should also act as a teacher of public hygiene. He must not omit any occasion to slip into the conversation words which will suggest means of prophylaxis of various diseases. I have frequently heard mothers say, "My doctor has never spoken to me about the immunization against diphtheria; otherwise I should have had my children immunized;" or, "My doctor never said anything about having my baby circumcised;" or again, "My medical adviser never suggested that I should have my little boy's tonsils removed."

The mothers mentioned at the beginning of this article had no idea about the importance of good vision; but is it they who are to blame if the eyes of their children are not in proper condition? Is it not, rather, the fault of the practitioner who gave them wrong ideas in the first place?

The medical men who work in the schools must inculcate in the children the idea of the prevention of disease. It is in the schools, from the primary grades to college, that we must teach hygiene.

In a word, the duty of the modern physician consists not alone in establishing a diagnosis, in writing a prescription and in giving instructions as to the way of life, but he must clearly undertake the education of his patients.

Always the practicing clinician has a social part to play—a part so great, so noble, so disinterested that if he performs it well he can render the most eminent service to his contemporaries.

If the practitioner would be an apostle of help, as he may and should be, it is necessary that he should learn to conjugate the most beautiful verb in any language—the verb "to serve;" to serve in the most noble cause there is—and to sow always the seeds of good health and happiness.

ADRIEN PLOUFFE, M.D.
Montreal, Canada.

*Translated and adapted from *L'Action Médicale*, Dec., 1935.

THE SEMINAR

"A MONTHLY POSTGRADUATE COURSE"

(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.)

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

Problem No. 1—1937 (Diagnostic)

Presented by H. J. Kooiker, M.D.,
Hill City, Minn.

(See CLIN. MED. & SURG., Jan., 1937, p. 39)

RECAPITULATION: A young man of 19 years was struck on the left side of the neck by a pole and bitten on the other side by a deer fly. A few days later he felt weak, tired, and ill.

Examination showed a small pimple on the right side of the neck, the surrounding tissue: were tender and the regional lymph nodes were palpable. His temperature was 103°F.

A dressing of Antiphlogistine caused the pimple to open, leaving a punched-out ulcer. The patient's fever disappeared and he went back to work; but returned the next day with a chill and a fever. Two days in bed brought the temperature to normal. This was repeated. For two weeks his fever was erratic (between 99° and 105°F. in 24 hours). The ulcer healed slowly, but the cervical glands became larger.

Requirements: What is your tentative diagnosis, and why? What further information is needed for a positive diagnosis?

Discussion by E. C. Junger, M.D.,
Soldier, Iowa

Problem No. 1, 1937, is quite similar to Problem No. 11, 1936, as both show a toxemia. To find the causative organism is the job in hand. If we knew where this deer fly was previous to the time it bit this young man, that would be helpful. It seems certain that the fly did the infecting. It also seems that a mixed infection existed in the pimple and spread to the cervical lymph node. If this man will quit running around and give the parts complete rest, instead of massaging the products of infection into his blood, he will recover.

A blood culture or aspirating of the lymph glands, if there is fluctuation, may determine the nature of the infection; but a hot pack over the infected area should be sufficient. The present epidemic of "influenza" is producing many cervical gland enlargements, palpable and visible for a week or two.

I once saw a case similar to the one in the

problem—a strong young man came back from service in France: a pimple appeared on his neck after shaving; his wife picked at it with a pin; in 5 days he was dead from streptococic septicemia.

Discussion by Millard F. Cupp, M.D.,
Clarksburg, Ind.

The first thought in this case might be that the contusion on the neck might have lighted up some latent focus of infection; but the pimple, followed by an ulcer, on the other side of the neck, with a temperature of 103°F., suggests other factors in the case.

To make a clear diagnosis, more information is needed: a complete blood study, including red, white, and differential cell counts; a complete examination of the urine; a Widal test. Perhaps the circumstances rendered the making of these studies impracticable, but without them we are largely forced to guess and, for the time being, call the case one of "fever of undetermined origin."

Discussion by Howard P. Benjamin, M.D.,
Omaha, Neb.

The most probable diagnosis in this case is in my opinion, *tularemia*, because of the history of being bitten by a deer fly; the ulceroglandular symptoms; and the erratic temperature curve.

An agglutination test should have been made. If my diagnosis is correct, the case must have been a rather mild one.

Discussion by M. W. Beach, M.D.,
Charleston, S. C.

I believe that *tularemia* is the most logical diagnosis in this case, for the following reasons:

- 1.—History of a bite by a deer fly.
- 2.—A pimple, followed by a papule and an ulcer at the point of the bite.
- 3.—Lymphadenitis, regional and persistent.
- 4.—Systemic symptoms of malaise, fever, and weakness.
- 5.—A clinical course showing a septic type of fever—temperature from 99° to 105°F. for three weeks.

The important additional information need-

ed to verify the diagnosis would be agglutination tests of the blood, especially for *Pasteurella tularensis*.

Discussion by W. Herington, M.D.

Green City, Mo.

This is a case of *tularemia*, pure and simple. The general malaise, chill and sweats are very characteristic of this disease.

The treatment is 10 cc. of 1:1,000 hydrochloric acid, intravenously, every other day for 10 doses, by which time he will not know he ever had anything wrong with him.

Discussion by G. M. Russell, M.D.

Billings, Mont.

There is only one disease that could produce this particular syndrome, and that is *tularemia*. In order to establish the diagnosis, all that would be necessary is a blood culture and agglutination test for *Pasteurella tularensis*.

Solution by Dr. Kooiker

In view of the continued and erratic fever, a study of the blood was indicated, and a specimen sent to a laboratory gave a positive agglutination test with *Pasteurella tularensis*, establishing the diagnosis of *tularemia*, which had been suggested by the symptoms and the history of having been bitten by a deer fly.

"Mountain Fever"

(Further Comments on Prob. No. 11—1936)

I noted your reference to my diagnosis of possible "mountain fever," in the January issue of "C.M.&S." (p. 39), and desire to say that I had no reference to the ordinary definition, such as one may see in Dunglison's, Gould's, or Dorland's Dictionary.

The syndrome which we call "mountain fever" in this locality is a sort of idiom and covers probably a malarial manifestation, or malaria excited to new activity by being transposed to the mountainous regions, but with the natural modifications engendered in the disease by reason of the blood changes, soon noticeable after one comes to the high altitudes. These changes consist principally of a very great addition of the number of the mononuclear lymphocytes, as first noticed by Doctor Gerald B. Webb, of Colorado Springs, Colorado, and for whom subsequently a grant was made by the American Medical Association for the further study of the effects of climate upon tuberculosis.

Webb's conclusions, in a word, were that the defensive powers of the body were enhanced from two to four hundred percent by the greater number of these small lymphocytes, which he designated as the only lymphocyte able to entirely destroy a tubercle bacillus and its associated toxins, by the usual process of envelopment.

"Mountain Fever," as we know it here, goes on for a week or ten days, and is associated with daily chills, fever, and sweating. The premonitory symptoms, however, are fre-

quently epistaxis, headache, etc., for a few days preceding the actual onset. A Widal test would, of course, distinguish it from typhoid fever.

JAMES A. DUNGAN, M.D.

Greeley, Colo.

Tularemia*

TULAREMIA is an acute infectious disease caused by *Bacterium tularensis*, and has been found in more than 20 kinds of wild animals, especially rabbits and hares, which are the source of more than 90 percent of human cases. Man becomes infected by contact of his bare hands with the raw flesh and blood of infected animals, or by bites of blood-sucking ticks or flies which have fed on such animals. Since 1924, 6,174 cases, with 297 deaths, have been reported in the United States (all states except Vermont and Connecticut have reported cases). One attack appears to confer permanent immunity.

Anyone who dresses rabbits with bare hands is in danger, because small skin lesions on the hands are almost universally present. Bites of various species of ticks, horse flies, and other blood-sucking insects (lice, fleas, etc.) are the second most common source of infection. In 13 laboratories, in various countries, 41 workers have been infected. The eye has been the site of the primary lesion in 68 cases. The disease is not contagious.

The "open season" for rabbits is the time when physicians should be most keenly on the lookout for this disease. A history of being bitten by a suctorial insect shortly before the onset of disease should always arouse suspicion. Eating the underdone meat of infected animals may cause infection.

About 3 days after exposure, the patient develops headache, chilliness, vomiting, aching pains all over the body, and fever. The patient usually thinks he has "flu" and goes to bed. At the site of the infection an indurated ulcer develops and the contiguous lymph glands swell, become painful, and sometimes suppurate. There is sweating, loss of weight, and debility. The illness lasts about 3 weeks and is followed by a long, slow convalescence (2 to 3 months). About 5 percent of patients die, especially if the case is complicated by pneumonia.

Positive diagnosis is made by agglutinating the *Bacterium tularensis* with the patient's blood serum; by obtaining a culture of the organism from the patient's ulcer or lymph nodes following guinea pig inoculation; or by obtaining a positive skin reaction by intradermal injection with an antigen prepared by Foshay, of Cincinnati.

EDWARD FRANCIS, M.D.

U.S. Pub. Health Service.

*Pub. Health Rep., Jan. 22, 1937.

(Continued on Page 136)

CLINICAL NOTES and ABSTRACTS

Fracture of the Neck of the Femur*

UNTIL recent developments, the end-results in the treatment of fractures through the neck of the femur have been extremely unsatisfactory. Various statistics from reliable sources revealed a mortality rate ranging from 12 to 25 percent, and in those patients who survived, non-union occurred in from 25 to 40 percent.

chronic diseases, are in reality indications for its use. It is applicable to most fractures in the neck of the femur, including selected cases of intertrochanteric fracture. *This technic is not suitable to comminuted fractures.*

Of all the methods so far reported, I consider the insertion of two screws, as advocated by Martin and Brewster, to be the

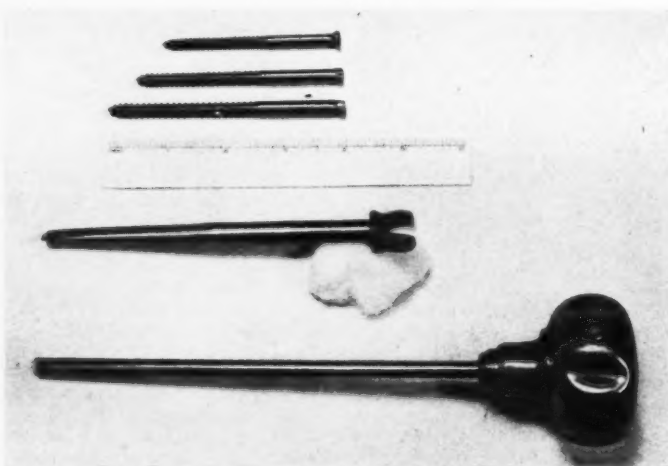


Fig. 1.—Instrument devised by the author. This consists of a special screw driver and split cannula, to be used with modified carpenter's screw.

Considering the satisfactory results obtained in the treatment of other fractures, the above figures form a deplorable contrast. The renewed interest in this fracture has resulted in a widespread investigation and a radical change of treatment.

There is no longer any doubt about the superiority of internal fixation to external immobilization. The internal splinting reduces the mortality and eliminates the long period of inactivity required by external splinting. Only a short period of hospitalization and nursing is necessary, and convalescence is easy, for the patient is soon active on crutches.

There are practically no general contraindications to internal fixation; on the contrary, advanced age, debility, acute and

most generally useful and dependable. This method is simple and mechanically sound. Carpenter's screws are preferable to machine screws, as they have a wider thread with a faster pitch, thereby securing a firm hold in the relatively soft bone of the femoral neck. Except for a screw driver, no special instruments are required. The use of two screws instead of one eliminates the possibility of rotation of the distal fragment, and provides double strength and security during convalescence. The patient is enabled to use crutches within a short time, returning home only partially disabled. There is ample proof that when such unabsorbable materials as these screws are properly used in this bone they are well tolerated. I have used the Martin method with great satisfaction, and on a recent visit saw some films taken eight years after operation, and found

*Hahnemannian Monthly, Nov., 1936.

no evidence of bone absorption around the screws.

Technic

The roentgenograms of the hip are studied, and lateral views ordered if they have not already been taken. A screw of known length

held in the same line as the incision, the split cannula is firmly thrust through the soft structures until it reaches the lateral aspect of the trochanter, in the same line as the neck of the femur. A screw is inserted into the upper end of the cannula, and

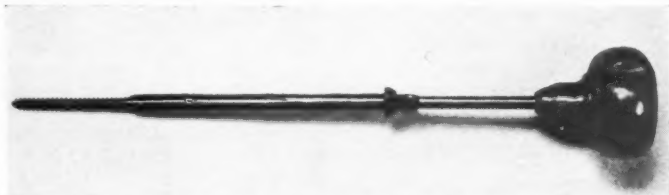


Fig. 2.—Screw driver cannula and screw assembled. The split end of the cannula spreads as the screw advances.

is laid alongside the unaffected hip and an x-ray picture is taken to determine the size of screw necessary for fixation of the fractured hip. An instrument tray is placed near the fluoroscopic table, containing drapings, dressings, iodine, towel clips, a small scalpel, the special instrument and screws (see Figs. 1 & 2), and Michel skin clips. No other instruments are required.

The patient is placed upon the fluoroscopic table, and if there is displacement the fracture is reduced by manipulation under nitrous oxide-oxygen anesthesia. The fluoroscope is used as a check to reduction. An assistant now holds the limb internally rotated and abducted. The skin over the outer border of the hip is painted with iodine and draped with a circumcision sheet, leaving exposed only a small area below the greater trochanter. The skin and periosteum are next anesthetized by injection of 5 cc. of 1-percent solution of Novocain (procaine). A lateral incision one-half inch long is made, one inch distal to the lowest portion of the greater trochanter. The room is then darkened and the fluoroscope used frequently for guidance. With its slot

“rammed” into the cortex of the trochanter by tapping firmly upon it several times with the special screw driver which fits into the cannula. This tapping also serves to impact the fragments. Then it is screwed across the fracture and well into the head, the direction and distance being checked by the fluoroscope.

As soon as the screw has been satisfactorily placed, the split end of the cannula is shifted about one inch and a second screw inserted across the fracture (see Fig. 3). The cannula is now withdrawn and the incision closed with two Michel skin clips. Finally, the hip is moved in various directions under the fluoroscope, thus demonstrating the security of the internal fixation.

This operation does not require more than fifteen minutes and does

not produce any shock. The patient is returned to bed without any splinting, only a soft pillow being placed under the knee.

Follow-Up Treatment

Within a few days after the operation all pain disappears and there is already fair control of the limb. In addition to using a back-rest, sitting upon the side of the bed is encouraged, and thus strength is preserved.



Fig. 3.—Internal fixation of subcapital fracture. Note parallel direction of screws, which is more easily accomplished than crossing the screws.

These frequent movements prevent stiffness of the knee. The patient is able to use crutches early, but must be warned and shown how to avoid bearing weight upon the affected limb until such a time as the x-rays demonstrate firm union.

EDWIN O. GECKELER, M.D.
Philadelphia, Pa.

Look for FACTS AND COMMENTS among the advertising pages at the back.

Determining the Presence of Fluid in the Abdomen*

TO determine the presence of fluid in the abdomen is sometimes difficult. The ordinary palpation methods, with the patient in a prone position, are not always satisfactory, false impulses being sometimes felt if the omentum is large and fatty. One reason is because the amount of fluid is small. If the examiner will have his patient sit upright, smaller amounts of fluid can be more certainly detected because no spine interferes with impulses set going by the examiner's fingers. The fluid is all in one part. If the back muscles are then percussed rather heavily the impulse waves may be felt by the other hand placed below the navel. The advantages of the erect over the prone position in common use are several. Small amounts of fluid can be found; the intestines and omentum are floated above the fluid out of the way; a third hand is not necessary to compress the intestines; the amounts of fluid can be better estimated and its level may be marked by a pencil from day to day. This simple method will be found better than the old three-hand, prone-position method of performing the test.

ROBERT L. PITFIELD, M.D.
Philadelphia, Pa.

Proctologic Suggestions

THE right latero-prone position, using the left index finger for exploration, is preferable to the left or Sims' position, as it brings several inches of the large bowel, above the rectum, within reach of the examining finger. Moreover, internal hemorrhoids can be felt in this position, which cannot be palpated in the Sims' position.

Always inspect the anal region and the entire perineum carefully, in a good light, before palpating, and record the things seen.

Before palpating the anus and rectum, lubricate the gloved finger completely (the dorsal as well as the palmar surface) with a water-soluble and transparent lubricant—not with vaseline. Insert the finger slowly, taking at least sixty seconds. The more success-

ful the proctologist, the longer he will take to insert his finger into the rectum. A rotary movement in the long axis of the finger, feeling carefully all parts of the rectal wall, is of great importance in all examinations of the rectum, as only the palmar pad of the finger gives reliable tactile impressions.

An x-ray examination of the rectum distended by a barium enema is almost useless, especially if inspection and palpation have been neglected. Only from the recto-sigmoid junction upward is x-ray examination after a barium enema of any real value.

Bimanual examination of the pelvis (finger in the rectum and the other hand on the lower abdomen) should be carried out in the course of all rectal examinations, and may furnish information of great importance.—A. LAWRENCE ABEL, M.S., F.R.C.S., London, Eng., in *Post-Grad. M. J.*, Aug., 1936.

Use our reader service department
"Send for This Literature."

Pruritus Vulvae*

PRURITUS vulvae and ani, especially pruritus vulvae, have been of interest to me for the past four and a half years. In treating over 1,000 cases from a gynecologic standpoint, I have found *Trichomonas vaginalis* to be the cause of 80 percent in our clinic patients. In the pregnant patient, *Monilia albicans* is a common cause of pruritus vulvae, yet *Trichomonas vaginalis* is the most frequent cause.

On a gynecologic basis, I would classify the causes of pruritus vulvae, in order of importance, as:

- 1.—*Trichomonas vaginalis*
- 2.—*Monilia albicans*
- 3.—Other fungi—skin infections
- 4.—Vincent's spirillum
- 5.—Senile atrophy—kraurosis
- 6.—Pediculi pubis
- 7.—Adherent prepuce
- 8.—Some pathologic urines
- 9.—Friction, etc.

The term "idiopathic" pruritus vulvae, means that we do not know, or that we have not yet found, the cause of the pruritus.

I have had two cases of endocrine pruritus vulvae. In these two cases, the women had small, infantile uteri and ovaries, and one of these was relieved by the use of an acidified dextrose tablet (Floraquin), because the patient had an associated trichomonas vaginitis.

I urge that pruritus vulvae never be

*Abstract of a discussion before Section of Medicine and Diseases of Children, Texas State Medical Association, May 26, 1936.

**Med. Record*, Oct. 21, 1936.

treated without first ruling out *Trichomonas vaginalis* with repeated fresh and stained smears. I also suggest its treatment by the acid-dextrose tablet method, together with acetic acid douches (3 tablespoonfuls of vinegar—or of 5-percent acetic acid—in 2 quarts of warm water). In the case of *Monilia albicans* I suggest the preliminary application of 5-percent gentian violet in 40- to 70-percent alcohol, daily for two or three days, followed by the use of the acidulated dextrose tablets, containing diiodohydroxyquinoline, which inhibits growth of monilia and destroys *Trichomonas vaginalis*.

KARL JOHN KARNAKY, M.D.

Houston, Texas.

Look for **THE LEISURE HOUR** among the advertising pages at the back.

Diagnosing Hyperinsulinism*

A PRESUMPTIVE diagnosis of hyperinsulinism can be made on the basis of a carefully taken history, but must, of course, be confirmed by laboratory tests of the blood sugar, in which the level of the sugar four hours after a glucose (dextrose) tolerance test is most important.

The clinician should keep this condition constantly in mind, especially when dealing with patients who have been going from one doctor to another and have been diagnosed as "neurotics," of one sort or another.

The three conditions which point definitely to hyperinsulinism are:

- 1.—Rhythmic symptoms, related by a definite time interval to the taking of food.
- 2.—A low blood-sugar level at the fourth hour after taking dextrose in the tolerance test.
- 3.—Relief or marked amelioration of symptoms by frequent feedings of small amounts of carbohydrates.

Among the specific symptoms which may appear when the patient is hungry are: Blurred or double vision; dizziness; diminished mental concentration; fainting or falling; general weakness; trembling or numbness; excessive perspiration; palpitation or precordial pain; variations in the pulse; dyspnea; frequent and urgent urination, etc.

If these symptoms are present in any case, that patient must have a careful and complete blood-sugar study, and, if this furnishes confirmatory evidence, must be treated by dietary measures, with a reasonable assurance that his obscure ailment can be cured.

DRS. G. R. WILKINSON and E. B. POOLE.
Greenville, S. C.

*South. Med. & Surg., Sept., 1936.

Ten Rules of Mental Health*

- 1.—Have a Hobby: Acquire pursuits which absorb your interest—sport and "nature" are best.
- 2.—Develop a Philosophy: Adapt yourself to your social and spiritual surroundings.
- 3.—Share Your Thoughts: Cultivate companionship in thought and in feeling; confide; confess; consult.
- 4.—Face Your Fears: Analyze them; daylight dismisses ghosts.
- 5.—Balance Fantasy with Fact. Dream, but also do; wish, but build; imagine, but ever face reality.
- 6.—Beware Alluring Escapes: Alcohol, opiates and barbitals may prove faithless friends.
- 7.—Exercise: Walk, swim, golf—muscles need activity.
- 8.—Love, but Love Wisely: Sex is a flame which, uncontrolled, may scorch; properly guided, it will light the torch of eternity.
- 9.—Don't Become Engulfed in a Whirlpool of Worries: Call early for help. The doctor is ready for your rescue.
- 10.—Trust in Time: Be patient and hopeful; time is a great therapist.

DR. JOSEPH FETTERMAN.

Cleveland, Ohio.

The products we advertise are worthy of your attention. Look them over.

Treatment for Burns

THE tannic acid treatment of extensive burns is, no doubt, highly effective, but it is difficult or impossible to carry it out in isolated homes.

Under such conditions I have found the following preparation highly efficient:

R
Naphthalene 3v—20.00 Gm
Liquid petrolatum oi—500.00 cc.
Heat together and then shake well and add a saturated solution of iodine crystals in chloroform fōi—8.00 cc.

Sig.: Apply locally or as a spray.

For treating extensive burns, add 1 ounce (32 Gm.) of petroleum wax (paraffin), melted and mixed with the former preparation by heat, in order to make it more adhesive. Gauze should be soaked in this mixture and applied to the burned areas.

This combination, with or without the wax, as the conditions indicate, is also useful in the treatment of cuts, infections, "athlete's foot," erysipelas, and other skin disorders. When properly put up it should be a clear, purple solution.—WALTER B. GUY, M.D., in *J. Med. Pract.*, March, 1936.

*Bull. Academy of Med. of Cleveland, O.

Hydrochloric Acid in Acute Laryngitis

HYDROCHLORIC acid in various strengths (1:1,500 to 1:500) has been advocated for intravenous use in acute follicular tonsillitis for the past several years.

About a year ago, I was called to the bedside of a patient who was suffering from an attack of acute follicular tonsillitis, but he also had an acute attack of laryngitis, so that he could only whisper.

As I always carry an ampule or two of hydrochloric acid 1:500 in my bag, I proceeded to use it for the tonsillar condition, giving 10 cc. intravenously.

An ice cube to either side of the neck, in the tonsillar region, was also used in a handkerchief, and the patient was told to use hourly a tablespoonful of peroxide of hydrogen to a glass of warm water, as a gargle to loosen and wash away cheesy material which protruded from the tonsillar crypts. He was also advised to use one teaspoonful of Epsom salts, with one teaspoonful of sugar, in a half-glass of hot water occasionally, as a gargle, if he had much pain in the throat. This procedure is more efficacious than an aspirin gargle.

Next morning the tonsillitis was much improved; the pains in joints and fever, characteristic of the condition, were gone; but what astonished me was that he could speak aloud and the laryngitis was apparently cured. Since then I have used this treatment in other similar laryngeal conditions, and the results have been uniformly satisfactory.

In the past fall and beginning winter, we have had quite an epidemic of laryngitis in Chicago, and I believe that a specific type of germ seems to be the offender. This condition preceded the generalized influenza epidemic, and I had quite a number of such cases to treat, even suffering with the condition myself.

I have used a 1:500 solution of hydrochloric acid, 10 cc. intravenously, in all such cases, and have not failed to see cures of the laryngitis in twenty-four hours, for which I have secured a reputation among my patients.

The former orthodox treatments of the condition have, in my hands, been unsatisfactory, and usually the affliction ran its course, no matter what the treatment.

Hydrochloric acid, therefore, wins another laurel, adding to the increasing list of conditions in which it has been found to be successful.

T. H. MADAY, M.D.

Chicago, Ill.

Differential Diagnosis of Conditions Associated with Sugar Excretion*

OF the many conditions characterized by urinary reducing substances, diabetes mellitus is the most frequent and serious and more mistakes are made in its diagnosis than are generally recognized. The mistakes are of two kinds: failures to diagnose and false diagnoses of diabetes. Our tests do not distinguish between glucose and other sugars that may occur in urine; not even between the sugars and numerous nonsugar substances which reduce our reagents.

Experience in reporting positive urinary reduction tests as glucose and other sugars, mixed sugars, and unidentified reducing substances, demonstrates that it is unsafe to assume that glucose, or indeed any other sugar, is the cause of a positive reduction test, especially when concentrations run one percent or less. A positive reduction test, therefore, calls for a determination of the cause of the reduction and, if it be glucose, for a prompt glucose tolerance test.

With such a rule of practice the methods outlined in this report make it practicable to prevent mistakes in diagnosis which were hitherto unavoidable.

WILLIAM G. EXTON, M.D.

New York City.

The Seminar

(Continued from Page 131)

Problem No. 3 (Diagnostic)

Presented by Dr. Howard P. Benjamin, M.D., Omaha, Neb.

The patient was a single man, aged 25 years, a farmer. His friends started to take him to a private hospital 24 miles away, but had to return him to his room, as his pain was too severe to permit him to travel. The room was freezing cold, so I could do only a make-believe examination.

He had no fever, but there was excruciating pain over McBurney's point, and vomiting. I gave him 1/4 grain (16 mg.) of morphine hypodermically, and sent him to a hospital 44 miles away, in a car filled with blankets and pillows. An x-ray examination showed nothing abnormal; the white blood cells were not increased. The patient went home, feeling comfortable, the next day.

Requirements: What is your tentative diagnosis? What further examinations would you have made or called for?

*N. Y. St. J. Med., Oct. 15, 1936.

THUMBNAIL THERAPEUTICS

Impetigo

A SIMPLE and effective treatment for stubborn cases of impetigo is to paint the lesions with several layers of Metaphen 1:500 in collodion, which are permitted to dry layer by layer. In 24 hours the outer layers of the Metaphen-collodion mixture are easily removed with tissue forceps; the adherent part is left on and the mixture reapplied in several layers. The procedure is repeated on the third day, and on the fourth day all the layers are removed with the forceps and with them the underlying incrustation. — CHARLES G. WEIGAND, M.D., in *Neb. St. M. J.*, Apr., 1936.

Sodium Morrhuate for Varicose Veins

SODIUM morrhuate is the drug of choice in the treatment of small superficial varicosities. Solutions of quinine are effective in these cases, but are apt to cause unpleasant reactions. — DR. S. MCAUSLAND, in *Lancet*, 1:1034, 1936.

Type II Pneumonia

PATIENTS with Type II pneumococcus pneumonia should receive from 100,000 to 300,000 units of Type II antipneumococcus serum as soon as the diagnosis is made, and from 50,000 to 100,000 units every 6 to 12 hours until the disease is controlled. — DRs. FINLAND and DOWLING, in *A. J. Med. Sc.*, 191:658, 1936.

Bismuth and Mercury in Syphilis

THE salts of both bismuth and mercury have an important place in the antisyphilitic armamentarium, as adjuncts to arsphenamine therapy. Mercury gives more brilliant but less uniform results than bismuth, so that in robust individuals with a healthy excretory mechanism the body's natural defenses are, perhaps, more effectively stimulated by the mercurials. For patients less vigorous and for those who do not respond well to mercury preparations, bismuth offers a valuable substitute. If for any reason an arsphenamine is contraindicated, bismuth will probably give the better performance alone. — DRs. A. B. CANNON and JOCELYN ROBERTSON, in *J. A. M. A.*, June 20, 1936.

Haliver Oil for Fissured Nipples

HALIVER oil, containing 50,000 international units of vitamin A per gram, was used as a local application in 26 cases of fissured nipples, with complete healing in 70 percent of the cases and marked improvement in 30 percent. The average time required for healing was 1½ days. — ARTURO C. KUNZ, M.D., in *Zentralbl. f. Gynäk.*, Jan., 1936.

Ephedrine and Posture in "Bad Colds"

THE instillation into the nasal chambers of a 1-percent solution of ephedrine in physiologic salt solution, with the patient in the lateral head-low position, is frequently very helpful in the treatment of "bad colds" and sinus infections. — SIDNEY M. PARKINSON, M.D., in *Arch. Otolaryng.*, Mar., 1936.

Addiction to Codeine

THERE can be no doubt that codeine belongs to the typical group of opiates causing addiction. The symptoms of withdrawal, in codeine and in morphine addicts, are substantially the same, in nature and in intensity. — IWAN OSTROMISLENSKY, M.D., Ph.D., in *Med. Rec.*, May 20, 1936.

Enuresis

GIVE the enuresis patient ½ grain (32 mg.) of ephedrine hydrochloride at bedtime, increasing the dose by ½ grain every 4 to 7 days until the enuresis is controlled. Wakefulness and restlessness, which are not uncommon, can be controlled by barbiturates. If vomiting occurs, the dose should be reduced. — R. W. BROOKFIELD, M.D., in *The Lancet*, Nov. 16, 1935.

Dextrose in Diphtheria

DIPHThERIA myocarditis can often be prevented by the intravenous injection of 10-percent dextrose solution, if begun early and continued for a sufficient time. It also helps to maintain the general nutrition of the patient who cannot swallow or retain food; provides nourishment to the heart muscle; and lessens congestion of the liver. — A. L. HOYNE, M.D., in *A. J. Med. Sci.*, Feb., 1936.

NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE AND SURGERY, Medical & Dental Arts Bldg., Waukegan, Ill., is accompanied by a check for the published price of the book.

The man who has no sense of literature and music is like an animal; though he has not horns or a tail and does not eat grass, he lives a life exactly like that of cattle.—NITISHATAKA.

Sadler: Psychiatry

THEORY AND PRACTICE OF PSYCHIATRY. By William S. Sadler, M.D., Chief Psychiatrist and Director, The Chicago Institute of Research and Diagnosis; Consulting Psychiatrist to Columbus Hospital; Formerly Professor at the Post-Graduate Medical School of Chicago, etc. St. Louis: C. V. Mosby Company. 1936. Price, \$10.00.

No one is more urgently in need of sound, sane, and practical information regarding the diseases and disorders of the psyche (the mind and the emotions) than is the general clinician, who sees most of these cases in their incipency and must be able to recognize those that must be sent to a psychiatrist, and handle the milder cases himself.

Here is a massive and well-written volume which will meet such a need better than any other with which we are familiar, as it is probably the most complete discussion of psychiatry and mental hygiene problems to be found in one volume in any language, covering all phases of the subject, from the nursery up through adolescence and adulthood to old age, and treating of many subjects not ordinarily included in books on psychiatry heretofore published. It is essentially a handbook, giving all who are professionally responsible for the mental health of children, adolescents, and senescent, a convenient guide for diagnosis and prescription.

The book is divided into five sections: (1) Theory of Psychiatry; (2) Personality Problems; (3) The Neuroses; (4) The Psychoses; (5) Psychotherapeutics. An interesting historical introduction gives a detailed discussion of the eight schools of modern psychiatry, with a brief statement of the tenets of each school. Twelve chapters comprise the section on "Theory of Psychiatry." Here is given the etiology, symptomatology, examination, diagnosis, and prognosis of mental conditions. In the section on "Personality Problems," covering nearly 200 pages, the author starts with a definition of personality, its classifications, and its sorts and technics of maladjustment, and then proceeds to trace the individual through life from the nursery to full maturity, discussing development, types, problems, and treatment. Twenty-three chapters are given over to a discussion of the psychoneuroses. The psychoses are treated in eight detailed chapters.

In the section on "Psychotherapeutics" there are 240 pages of text matter. Suggestion, hypnotism, rest and relaxation, play and recreation are fully discussed. Here is the common-sense treatment of mental, nervous, emotional, and personality disorders.

This work neglects none of the general principles. It fully sets forth the symptoms, signs, diagnosis, differential diagnosis, prognosis and treatment or management. It discusses mental mechanisms, the unconscious and the subconscious, the significance of dreams and other attitudes, and includes a description of methods of examining. It is a record of the experience and studies of one man, who for thirty years has been engaged in the private practice of psychiatry, and who is thoroughly familiar with the non-institutional management of nervous, emotional, and personality disorders.

The whole book is written in a smooth, coherent, and comprehensible style, which makes it easy to read and understand. The bookwork is excellent in all particulars, and the price, considering the size of the volume, is very reasonable.

No practicing clinician in any field can afford to deny himself the daily help he can obtain from a study of this book, and it will be of great value to teachers, ministers, psychologists, and social workers.

Jacoby: Medicine and Religion

PHYSICIAN, PASTOR AND PATIENT. Problems in Pastoral Medicine. By George W. Jacoby, M.D., Past President of the American Neurological Association and the New York Neurological Society. Illustrated. New York: Paul B. Hoeber, Inc. 1936. Price, \$3.50.

So distinguished a scientist as Prof. R. A. Millikan has said: "The purpose of science is to develop, without prejudice or preconception of any kind, a knowledge of the facts, the laws, and the processes of nature. The even more important task of religion is to develop the consciences, the ideals, and the aspirations of mankind. Each of these two activities represents a deep and vital function of the soul of man, and both are necessary for the life, the progress, and the happiness of the human race."

Medicine and religion are not, as some unenlightened people seem to think, antagon-

istic, but rather complementary, so that no physician can be wholly successful if he is without religion, and no minister can do his best work if he lacks a knowledge of the basic medical sciences. Among physicians, the psychiatrist (of which specialty the author of this volume is a distinguished practitioner) is in the best position to observe the basic and practical unity of these two lines of activity. Something vital was lost to the medical profession when the two were separated, and this remarkable book should serve to bring them together again.

After sketching the history of medicine and the direct bearing of religion upon the patient, Dr. Jacoby proceeds to the clear and delightfully phrased discussion of the problems which are common to the medical and clerical professions, such as birth control and abortion; divorce problems; is the criminal sick or sinning?; sterilization; euthanasia; vivisection; and several others. Always his attitude is scientific, impersonal, and deeply religious.

Primarily this book is one to be read, for information and pleasure, as the style is smooth and elegant and the statements made are wholly valid. However, an adequate index makes it a valuable reference book. The paper, typography and binding are thoroughly pleasing, and there are twenty interesting full-page illustrations.

It is entirely safe to say, that no physician or minister of religion can read this book thoughtfully without being an abler and more successful member of the calling which he has chosen as his life's work.

Levy: Diseases of the Coronary Arteries

DISEASES OF THE CORONARY ARTERIES AND CARDIAC PAIN. Edited by Robert L. Levy, M.D., Professor of Clinical Medicine, College of Physicians and Surgeons, Columbia University, etc. New York: Macmillan Company. 1936. Price, \$6.00.

Statistics show that during the past five years deaths from diseases of the coronary arteries have increased fourfold. The apparent increase may be accounted for partly by more accurate diagnosis and partly by changes in recording methods; nevertheless, there is no doubt that coronary arterial disease is rapidly increasing in the United States and a thorough knowledge of the etiology, evolution and treatment of the condition is incumbent on every physician.

During the past twenty years much attention has been given to the study of affections of the coronary arteries and of cardiac pain, often loosely classed as angina pectoris. Great advances have been made and the present volume, edited by Dr. Levy, contains the contributions of fourteen outstanding men in this field, who have assumed critical attitudes and, in the light of their own experiences and judgment, have presented definite, digested points of view. This summary of research and clinical knowledge should be of the utmost value to general practitioners, who

constantly meet coronary arterial disease in its various phases. Here they will find the latest opinions and findings which they may apply in practice.

Besides the clinical features and the chapters devoted to the medical and surgical treatment, there is an excellent account of the anatomy, physiology, pharmacology, and pathology of the coronary arterial system and its connections.

The book is a timely one, full of up-to-date knowledge, and it should find a place in the working library of every physician.

Houda: Goiter

CONQUEST OF GOITER. By Emilian O. Houda, M.D., 1111 Fidelity Building, Tacoma, Washington. 1936. Price \$2.50.

Here one will find, in one neat, compact, pocket-sized volume, all that the author has to say about his discovery of a specific, infectious microorganism, which he believes is the cause of all (or practically all) cases of goiter, of whatever type, and from which a specific, curative bacterial vaccine can be made. Several of Dr. Houda's articles have been published in these pages from time to time, and the substance of these is included in the book, along with a good deal of other material, case histories, and illustrations.

Dr. Houda's ideas are so revolutionary that he could find no established publisher to handle his manuscript, so he published it himself. Whether one agrees with his ideas or not, there appears to be a sufficient basis of sound clinical and laboratory research behind them so that the thoughtful and open-minded physician, who wants to do all he can for his goiter patients, cannot afford to neglect them. It is within the bounds of possibility that the future may class this little book among the pioneering classics.

Bridges: Clinical Dietetics

DIETETICS FOR THE CLINICIAN. By Milton Arlenden Bridges, B.S., M.D., F.A.C.P., Director of Medicine, Detention, Rikers Island and West Side Hospitals, New York; Assistant Professor of Clinical Medicine and Lecturer in Therapeutics and Nutrition, New York Post-Graduate Medical School of Columbia University, etc. Third Edition, Thoroughly Revised. Philadelphia: Lea & Febiger. 1937. Price, \$10.00.

In this day, the physician who is unfamiliar with the principles and practice of dietetics is severely handicapped, because, for one reason, his patients are learning a good deal about these matters and expect him to know more than they do and to give them intelligent and detailed advice.

The third edition of this valuable work is practically a new book, based on more up-to-date foundations than were its predecessors. In it, the author offers a new classification of foods, presenting their mineral, nutritive and vitamin values in their edible state, as well as the analyses of raw products.

This edition has been enlarged to include

the dietary treatment of more than 200 diseases. The diets have been increased to 300, and approximately 900 menus are presented in the form of three meals daily for at least three days, and in some instances for a week or longer. The section on pediatrics has been completely rewritten, to increase the emphasis on the dietary treatment of the diseases of children. The section on vitamins has been revised in accordance with the latest information. The appendix now includes over 200 pages of tables, summarizing the analyses of common foods, including nationally recognized commercial products.

This book offers a complete summary of the field of dietetics, with an extensive review of its current literature, its chief object being to supply a worthwhile addition to the armamentarium of the nutritional expert, the home economist, the general practitioner and the hospital intern. The paper and typography are excellent; the bibliographies and index ample; and the binding of beautiful and durable linen, with red labels, making it a joy to the eye, as well as an important and practical addition to any clinician's library.

Best & Taylor: Physiology in Medical Practice

THE PHYSIOLOGICAL BASIS OF MEDICAL PRACTICE. A University of Toronto Text in Applied Physiology. By Charles Herbert Best, M.A., M.D., D.Sc. (Lond.), F.R.S. (Canada), F.R.C.P. (Canada), Professor and Head of Department of Physiology, University of Toronto; and Norman Burke Taylor, M.D., F.R.S. (Canada), F.R.C.S. (Edin.), F.R.C.P. (Canada), M.R.C.S. (Eng.), L.R.C.P. (Lond.), Professor of Physiology, University of Toronto. Baltimore: William Wood & Company. 1937. Price, \$10.00.

Fundamentally, all medical practice is more or less directly based upon a knowledge of physiology and its abnormal variations.

Here we have, in a volume of more than 1,600 pages, a complete and up-to-date presentation of the practical clinical applications of the latest knowledge of physiology. It is not merely a textbook for University of Toronto students, but a work of great international value to all English-speaking physicians and students.

The authors feel that, while physiology is a science in its own right, the teacher of physiology in a medical school owes it to his pupils, who are primarily interested in the diagnosis and treatment of disease, to emphasize those aspects of the subject which throw light upon the disorders of function, thereby giving the student and practitioner a vantage point from which he may gain a rational view of pathologic processes. As stated in the preface, "The aim of this book is to link the laboratory with the clinic and maintain continuity in physiological teaching from the pre-clinical to the clinical years."

For the benefit of those physicians whose recollections of anatomy and histology are a little dimmed by time, the authors precede the account of the physiology of each part

by a short description of its morphology. No progressive practitioner need be afraid to tackle this book and, with the assistance of the ample index and bibliography, it will prove an invaluable reference work for years.

The book is divided into eight parts: The Blood and Lymph; Circulation of the Blood; Respiration; Excretion of Urine; Digestion; Metabolism and Nutrition; the Endocrines; and the Nervous System.

Every medical library, large or small, should include a work of this type, and this comprehensive volume serves the purpose admirably.

Laird: Enjoying Life

MORE ZEST FOR LIFE. By Donald A. Laird, Ph.D., Sci. D., Rivercrest Psychological Laboratory, Hamilton, N. Y. New York and London, Whitesey House: McGraw-Hill Book Company. 1936. Price, \$2.50.

Too many people are finding life about as tasty as brushing one's hat: they are "fed up with life." Some commit *felo de se*, but most of them muddle along and wonder why they haven't the courage to do it.

This condition is not due to the circumstances of one's environment, but to an unwholesome condition in the man himself, based primarily, perhaps, on narrow intellectual horizons; and Dr. Laird shows here how and why such a deplorable state of things comes about, and the way to set about altering one's life-direction so as to recapture or develop that zest which makes life an exciting and worthwhile adventure, even when the external surroundings seem most unpropitious. "Zest," says he, "is something we give to the world, not something the world pours over us. It is an inner condition of mental adjustment."

Chapter III, which explains the law of the rhythm of life and shows how to make use of it, is, if properly studied and acted upon, worth far more than the price of the volume.

Among the striking chapter headings are such as: "What is Happiness?"; "The Breath of Life"; "The Zestful Personality"; "Education and Zest"; etc. There is scarcely a page in the book that will not be marked in the margin, by all sincere and thoughtful readers, for such phrases as: "Drinking may irritate one's trouble, not drown it"; "If guided and controlled by adopting a positive attitude of mind, practically anything can be interesting"; "Happiness is a mental state, an inner condition of balance. It depends almost solely upon the individual's estimation of what things are worth while"; "Be yourself—and be proud of it at every age."

The last chapter contains brief summaries of all the others, which can (and should) be run through daily in ten minutes. An index puts all details at one's fingertips.

Here is a book which every physician should read, whether he needs it personally or not (*many do*), because every doctor has at least one patient who needs it and ought to know about it, and will read it if his medical adviser insists.

Gifford: Treatment of the Eyes

A HANDBOOK OF OCULAR THERAPEUTICS. By Sanford R. Gifford, M.A., M.D., F.A.C.S., Professor of Ophthalmology, Northwestern University Medical School, Chicago, Ill.; Attending Ophthalmologist, Passavant Hospital, Wesley Memorial Hospital, Evanston Hospital, Cook County Hospital. Second Edition, Thoroughly Revised. Illustrated with 60 Engravings. Philadelphia: Lea & Febiger. 1937. Price, \$3.75.

Every general clinician is called upon almost daily to treat eye disorders, and it is important that he should be familiar with the practical modern methods employed in this branch of therapeutics.

This moderate-sized book offers a concise, authoritative and thoroughly modern guide to treatment, including the importance of vitamins and glandular products in eye disorders. It evaluates the various therapeutic agents and methods. It includes pathogenesis and diagnosis, in so far as they relate definitely to treatment, and discusses surgery in so far as it concerns the indications for operations, although certain minor procedures, which may be considered part of office treatment, are included in detail. The material is so organized as to be instantly accessible and the work includes the essentially valuable

procedures, as distinguished from the purely traditional ones. The methods included are those which the author himself has proved to be effective. It will be vastly helpful to men in general practice, and a valuable quick-reference refresher for ophthalmologists.

Mullen: Treatment and Formulary

MODERN TREATMENT AND FORMULARY. By Edward A. Mullen, P.D., M.D., F.A.C.S., Assistant Professor Pharmacology and Physiology, Philadelphia College of Pharmacy and Science, etc. Foreword By Horatio C. Wood, Jr., etc. Philadelphia: F. A. Davis Company. 1936. Price, \$5.00.

Every active practitioner frequently needs a handy book of reference to refresh his mind on points that it is unnecessary to carry in memory. Here it is, in large-pocket or hand-bag size, in a blue fabricoid cover, for hard use—suggestions for treatment; more than 2,000 tried prescriptions for various diseases; tables of differential diagnosis, weights and measures, doses, etc; diet lists; and even a medical conversation manual in five languages.

Every physician who buys this book and uses it frequently and regularly ought to get his money's worth out of it in the first month.

New Books Received

The following books have been received in this office and will be reviewed in our pages as rapidly as possible.

OPERATIVE SURGERY. By Alexander Miles, M.D., LL.D., F.R.C.S. Ed.; and D. P. D. Wilkie, M.D., F.R.C.S. Ed. and Eng. 2nd Edition. New York: Oxford University Press. 1936. Price, \$7.25.

THE INTIMATE SIDE OF A WOMAN'S LIFE. By Leona W. Chalmers. Foreword by Winfield Scott Pugh, M.D. New York: Pioneer Publications, Inc. 1937. Price, \$1.50.

ORIGINAL PAPERS OF RICHARD BRIGHT ON RENAL DISEASE. Edited by A. Arnold Osman, D.S.C., F.R.C.P. New York: Oxford University Press. 1936. Price, \$7.25.

CHEMISTRY OF FOOD AND NUTRITION. By Henry C. Sherman, Ph.D., Sc.D. 5th Edition, Completely Rewritten. New York: The Macmillan Company. 1937. Price, \$3.00.

DISEASES OF THE NEWBORN. By Abraham Tow, M.D. New York: Oxford University Press. 1937. Price, \$6.50.

WHAT MAKES PEOPLE BUY. By Donald A. Laird, Ph.D., Sc.D. First Edition, Third Impression. New York and London: McGraw-Hill Book Company, Inc. 1935. Price, \$2.50.

NATIONAL HEALTH SERIES. Edited by the National Health Council. Five of twenty volumes, some completely revised, the others published for the first time. **TAKING CARE OF YOUR HEART.** By T. Stuart Hart, A.M., M.D.; **HOW TO SLEEP AND REST BETTER.** By Donald A. Laird, Sc.D., Ph.D.; **THE COMMON COLD.** By Wilson G. Smillie, A.B.,

M.D., Dr. P. H.; **VENEREAL DISEASES.** Their Medical, Nursing, and Community Aspects. By William Freeman Snow, M.D.; **EXERCISE AND HEALTH.** By Jesse Feiring Williams, A.B., M.D. New York & London: Funk & Wagnalls Company. 1937. Price, \$0.40 per copy; \$1.10 for three copies, postpaid.

NUTRITIVE AND THERAPEUTIC VALUES OF THE BANANA. A Digest of Scientific Literature. Boston: Research Department, United Fruit Company. 1936. Sent free on request.

ANNUAL REPORT OF THE SURGEON GENERAL OF THE PUBLIC HEALTH SERVICE OF THE U.S. for the Fiscal Year—1936. Washington, D.C.: United States Government Printing Office. 1936. Price, \$1.00.

ERGEBNISSE DER GESAMTEN MEDIZIN. By Prof. Dr. Th. Brugsch. Volume 21—January, 1936, in three parts. Berlin, Germany: Urban & Schwarzenberg. 1936. Price, paper cover, RM 25.—; bound, RM 30.—.

AN INTRODUCTION TO PHARMACOLOGY AND THERAPEUTICS. By J. A. Gunn, M.A., M.D., D.Sc., F.R.C.P. 5th Edition. New York: Oxford University Press. 1936. Price, \$1.75.

CARCINOMA OF THE FEMALE GENITAL ORGANS. By M. C. Malinowsky and E. Quater. Translated from the Russian by A. S. Schwartzmann, A.B., M.D. Boston: Bruce Humphries, Inc. 1936. Price, \$5.00.

MEDICAL NEWS



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Self-Portrait of an Operation

TED Key, art editor of the University of California's paper, *The Daily Californian*, was so keen about his work that when he underwent a laparotomy, under a local anesthetic, he asked to have his arms left free, so that he could make a drawing of his operation.

The upper part of the picture above shows the artist (still indefatigably sketching) as he lay in bed after the operation; and the lower part is the sketch he made while the work was going on.

Foreign Medical Tours

THE South American Assemblies of the Interstate Postgraduate Medical Association of North America will extend from March 20 to May 18, 1937; and the European Assemblies (including Russia) from May 15 to July 8.

These foreign Assemblies give American physicians an unusual opportunity to combine

broadening travel with intelligently directed graduate study in their profession.

Write to Dr. W. B. Peck, Managing Director, Freeport, Ill., for full information regarding these tours, which are financed on the all-expense basis.

Passing of Dr. Smithies

ON February 9, 1937, Dr. Frank Smithies, of Chicago, nationally known gastroenterologist, medical organizer, and journalist, passed to his rest at the age of 56 years, as the result of a sudden cerebral hemorrhage.

Dr. Smithies was born in England, but came to Chicago when a boy, and received his medical degree from the University of Michigan, where he was instructor in medicine from 1906 to 1910, after he had done graduate work at the University of Berlin and Guy's Hospital, London. He was gastroenterologist at the Mayo Clinic in 1911, and associate professor and professor of medicine at the University of Illinois from 1917 to 1923. He was one of the active organizers of the American College of Physicians, of which he was president in 1927; was a prolific writer of medical books and articles; and served as editor of the *American Journal of Digestive Diseases and Nutrition*, from its inception to the time of his death, as well as serving on the editorial staffs of several other publications.

A more complete biographic sketch of Dr. Smithies, with a portrait, appeared in the May, 1927, issue of this Journal, on page 327.

American Urological Association

THE American Urological Association will meet at Minneapolis, Minn., June 29 and 30 and July 1, 1937. Full information regarding the meeting may be obtained from Dr. George Earl, Lowry Medical Arts Bldg., Minneapolis.

Heart Deaths

AT present, every other death among persons past 45 years of age is due to cardiovascular-renal disease, as compared with every third death in 1900. The mortality from these conditions is greatest in the winter; less in the spring and autumn; and least in the summer.

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| C-4 Taurocol. The Paul Plessner Co. | C-25 Clinical Guide for Female Sex Hormone Therapy. Schering Corp. |
| C-5 Specific Urethritis—Gonoson "Riedel." Riedel & Co., Inc. | C-26 An Outstanding Advance in Ulcer Therapy. The Wilson Labs. |
| C-6 Dr. Weirick's Sanitarium. Dr. G. A. Weirick. | C-27 Reducing Diets and Recipes. Knox Gelatine Laboratories. |
| C-7 Fourth Edition of Diagnosis of Genito-Urinary Disease and Syphilis. Od Peacock Sultan Co. | C-28 Dermatomycol for the Treatment of Skin Diseases Due to Fungi. Ernst Bischoff Company. |
| C-8 <i>Journal of Intravenous Therapy</i> . Loeser Laboratory. | C-29 Colloidal Mercury Sulphide-Hille. Hille Laboratories. |
| C-9 Elixir Bromaurate in the Treatment of Whooping Cough and other Cough Disorders. Report of Cases. (Booklet.) Gold Pharmacal Co. | C-30 Ludozan—The Longer Lasting Antacid. Schering Corporation. |
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- C-43 Karo Syrup for Infant Feeding. Corn Products Sales Co.
- C-44 Appliances for the Mechanical Retention of Hernia. Brooks Appliance Co.
- C-45 Chloral Hydrate, the Mercurials, and Iodine Resumé of Therapy. Mallinckrodt Chemical Works.
- C-46 Vitafer. A Reconstructive Tonic containing Antianemic Factors with Vitamin B. National Drug Company.
- C-48 Syrup Amelate. A New Urinary Antiseptic. Abbott Laboratories.
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- C-54 Use of Zinc Borate in Otolaryngology. Hille Laboratories.
- C-55 Protosil (in ampules)—Chemotherapy of Streptococcus Infection. Winthrop Chemical Co., Inc.
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- C-58 Betaxin — First Synthetic Vitamin B. Winthrop Chemical Co., Inc.
- C-59 Crookes Compound Halibut Oil Ointment. Crookes Laboratories.
- C-60 The Newer Knowledge of Ethyl Iodide Therapy. Burnham Soluble Iodine Co.
- C-61 Body Chemistry as related to the Endocrine Glands. Reed & Carnrick.
- C-62 Bismuth Subsalicylate in the Treatment of Syphilis. Loeser Lab.
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- C-64 The Effect of Copper on Iron Metabolism in Anemia. Loeser Lab.
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- C-69 Cebione. For Use in Scurvy and Prescurbic Conditions. Merck & Co., Inc.
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- C-73 Syrup Calcidrine. Abbott Labs.
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